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The scientific publications of the United States National Museum consist of two series, the *Proceedings* and the *Bulletins*.

The *Proceedings*, the first volume of which was issued in 1878, are intended primarily as a medium for the publication of original, and usually brief, papers based on the collections of the National Museum, presenting newly acquired facts in zoology, geology, and anthropology, including descriptions of new forms of animals and revisions of limited groups. One or two volumes are issued annually and distributed to libraries and scientific organizations. A limited number of copies of each paper, in pamphlet form, is distributed to specialists and others interested in the different subjects as soon as printed. The date of publication is printed on each paper, and these dates are also recorded in the tables of contents of the volume.

The *Bulletins*, the first of which was issued in 1875, consist of a series of separate publications comprising chiefly monographs of large zoological groups and other general systematic treatises (occasionally in several volumes), faunal works, reports of expeditions, and catalogues of type-specimens, special collections, etc. The majority of the volumes are octavos, but a quarto size has been adopted in a few instances in which large plates were regarded as indispensable.

Since 1902 a series of octavo volumes containing papers relating to the botanical collections of the Museum, and known as the *Contributions from the National Herbarium*, has been published as bulletins.

The present work forms No. 90 of the *Bulletin* series.

RICHARD RATHBUN,
Assistant Secretary, Smithsonian Institution,
In charge of the United States National Museum.

WASHINGTON, D. C., November 25, 1914.

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MONOGRAPH OF THE MOLLUSCAN FAUNA OF THE ORTHAULAX PUGNAX ZONE OF THE OLIGOCENE OF TAMPA, FLORIDA.

By WILLIAM HEALEY DALL,
Curator, Division of Mollusks, United States National Museum.

INTRODUCTION.

In the vicinity of Tampa Bay, Florida, and especially on the northwestern shores of the bay, near Ballast Point, are found certain limestones more or less mingled with layers of clay, marl, and chert, with residual sands and so-called "fuller's earth." A particular stratum which crops out near high-water mark at Ballast Point is extremely fossiliferous. In the cherty portions the calcareous matter of the fossils has disappeared through solution, and they are represented chiefly by molds, from which casts may be made with gutta-percha or other plastic material, so that the character of the fossils can be determined. In the marly or clayey parts of this deposit the fossils have also largely disappeared, but natural casts in pure silex have replaced them. In the portions of the bed which retain the character of limestone the fossils remain more or less intact, but are difficult to work out on account of the hard, tough character of the matrix. Rock excavated by dredges in deepening the channel off Ballast Point, much of which has been dumped on the adjacent beaches, is of the same character as the limestone above tide marks in which the fossils remain calcareous. In that portion of the bed in which silicification has been most active, besides the shells exquisitely reproduced in silica, either translucent or of various shades of brown, also occur silicified corals, some of them in masses of considerable size. These have a geodic form in many cases, the exterior of the coral head being reproduced, often with great perfection of detail, while the interior is hollow, with its walls covered with brilliant crystals of quartz, often presenting a remarkable coloration in various shades of brown, red, blue, or yellow. These having attracted the attention of visitors, were for years collected by dealers in local curios for sale to tourists. The layers

Vicksburg Group, with the Oligocene (Aquitanean) of European geologists. This was announced in 1896,¹ and the determination has since been fully confirmed by the vertebrate fossils studied by Osborn and other paleontologists.

With the conclusion of the discussion of the molluscan fossils of the Florida Tertiary in 1903—work to which the explorations of many members of the United States Geological Survey contributed material, especially Capt. Frank Burns—a review of the available evidence was prepared and published in the last fasciculus of that work.² The arrangement of the several zones or horizons as then understood was as follows, in descending order:

1. Oak Grove sands.
2. Chipola marls.
3. Tampa limestone.
4. Orthaulax bed.
5. Chattahoochee Group.
6. Ocala nummulitic limestone.
7. Peninsular limestone.

Taking these in ascending order it may be pointed out that the researches of Col. Thomas L. Casey at Vicksburg, Mississippi,³ confirmed the opinion previously held by those geologists who had explored the typical locality, that the Vicksburg Group as it was called by Conrad (who realized that it was not faunally homogeneous⁴) comprises at least two faunal horizons, the upper a marl containing abundant *Orbitoides* (*Lepidocyclina*), and the lower a limestone in which *Orbitoides* is absent or very rare. He writes (p. 515):

The lower Vicksburgian consists of alternate thin strata of gray sands, sandy clays, and variably, but usually loosely compacted white or gray limestones. The upper consists of a much thinner bed of more or less red brown marl, often indurated into nodular masses, or subindurated and without trace of limestone, having rarely, however, thin layers of glauconitic sands and comminuted shells, in which entire specimens when found are generally much distorted by pressure. The faunas of these two beds differ very markedly, and there are probably not half of the species of either common to the two.⁵

There can be no question that we have here two faunal horizons though the stratigraphy may show no unconformity. There is very little doubt that the particular species supposed by Conrad to be

¹ Proc. U. S. Nat. Mus., vol. 19, No. 1110, p. 303, 1896.

² Trans. Wagner Inst., vol. 3, pp. 1541-1620, 1903.

³ Proc. Acad. Nat. Sci. Phila. for 1901, pp. 513-518.

⁴ Journ. Acad. Nat. Sci. Phila., ser. 2, vol. 1, pp. 207-208, 1849. In this article Conrad indicates four conspicuous species which he states are found only in the lower part of the bluff and not in the upper fossiliferous stratum.

⁵ Unpublished lists of the fossils collected by Dr. T. W. Vaughan, with close attention to the stratigraphy at Vicksburg Bluff, and kindly furnished for use in the present memoir show that there are of 123 well-determined species 38 peculiar to the upper bed, 27 peculiar to the lower bed, and 58 species found in both beds. The fauna described by Conrad in 1848 comprised species from both horizons indiscriminately.

our present knowledge goes), 13 identical with species found at Vicksburg, and 15 (including in this case foraminifera) are inherited from the Peninsular limestone, which was followed by the Ocala with continuous sedimentation but with the changes of fauna above indicated.

The Ocala or Nummulitic limestone of Heilprin was first discovered by Mr. Joseph Willcox and discriminated from the Peninsular limestone, of which it seems to form a culminating phase, by Prof. Angelo Heilprin. The stratum, though thin, is, according to Doctor Vaughan's observations, quite widely spread, and is everywhere characterized by a specially abundant content of foraminifera, particularly the Nummulites and Miliolites. The former are not absolutely confined to the Ocala phase, but elsewhere are relatively rare, indicating perhaps the slowness with which the Nummulitic fauna of southern Europe and northern Africa was able to make its way westward, following the Orbitoides or Lepidocyclinas and Orbitolites. The last mentioned have been able to persist to the present time, having been dredged by the peck in the Gulf of Mexico by the expeditions of the United States Bureau of Fisheries.

The Chattahoochee group, of which the typical locality is at New Chattahoochee Landing near the railway bridge over the river of the same name, was named by Langdon in 1887, who, by misidentification of fossils, was led to describe it as of Miocene age. The fossils are not numerous and as a rule are poorly preserved.

The Orthaulax bed has been sufficiently described above, as has the overlying limestone named in 1892 by the writer, the Tampa limestone, which though apparently conformable with the former has so far failed to yield to collectors some of the most characteristic fossils, such as *Orthaulax* and *Villorita*, and contains numerous others, especially Cerites, which have not yet been found in the Orthaulax bed.

The White Beach limestone of Little Sarasota Bay¹ has a fauna in many respects similar to that of the Orthaulax bed, and yet the identifiable species are not sufficiently numerous to decide whether it may be regarded as its exact equivalent or not. The question is complicated by the presence in the White Beach fauna of several large and conspicuous species not known from the Orthaulax bed, especially the *Conus demiurgus*, a large *Cypraea*, a *Mytilus*, and others.

The Tampa limestone (which includes Heilprin's "*Cerithium* rock") lies immediately over the Orthaulax bed at Ballast Point, but owing to its being at or nearly at the surface has been recognized over a wider area.² It is largely free from silex, the fossils are mostly represented by external molds, and it was referred with the Orthaulax bed to the Middle Miocene by Heilprin. The Jack-

¹ Trans. Wagner Inst., vol. 3, p. 1568.

² Idem., p. 1570.

This genus of Foraminifera appears to replace *Lepidocyclina* (better known as *Orbitoides* in this country) in these two horizons.

The molluscan fauna of the limestone immediately above the silex beds has not been thoroughly studied, but it is notable for the number of *Cerites* contained in it and for the profusion of *Orbitolites floridanus* Conrad (? *complanatus* Lamarck), and it seems allowable to apply the name of the latter species as a designation of this zone, with the type-locality at Ballast Point.

The fauna represented in the lower bed at Alum Bluff, on the Chattahoochee River, Florida, and in the Chipola marl has been fully though not exhaustively treated in the writer's work on the Tertiary Fauna of Florida.¹ It is a remarkably rich and beautifully preserved fauna, containing one species of *Orthaulax* (*O. gabbi* Dall), the last representative of the genus in our Tertiary. It is also notable for the abundance of a bivalve, *Cardium cestum* Dall, the name of which I have selected to designate the zone typified by the fauna of the Chipola marl at the locality on the Chipola River near Bailey's Ferry, Calhoun County, Florida.

These three zones form a natural faunal group, characterized by a large proportion of common species, by indications of uniform climatic conditions bordering on the tropical, and by the presence of peculiar genera not existing in the faunas succeeding to them.

The next superior zone, of which the fauna is fairly well known, though in part unpublished, is that referred to by the writer in 1892, as represented by the Alum Bluff beds and the sands at Oak Grove, Santa Rosa County, Florida. This horizon is conspicuously distinguished by the greenish or grayish color of the matrix as compared with the yellow or orange of the zone below, by the disappearance of *Orthaulax* and many of the more distinctively tropical forms from the fauna (though a fair proportion of Chipola forms still remain), and by the appearance in the fauna of a certain number of types prefiguring the cold-water fauna which accompanied the deposition of subsequent beds of Miocene age.

The type-locality is at Alum Bluff where the strata lie above the marl of the Chipola type at the base of the bluff, and contain few if any fossils, while the Miocene lies directly above them. But the horizon was traced continuously to Rock Bluff by the writer and Mr. J. Stanley Brown of the United States Geological Survey in 1893.

At Rock Bluff it contains characteristic littoral species which connect the fauna unmistakably with that of the Oak Grove sands which contains a large number of well-preserved species belonging in deeper water. One of the most characteristic of these, *Scapharca dodona* Dall, is present in large numbers and may be used to designate the zone.

¹Trans. Wagner Inst., vol. 3, 1890-1903.

BULLARIA PETROSA Conrad.

Bulla petrosa CONRAD, Amer. Journ. Sci., ser. 2, vol. 2, p. 399, 1846, with figure. Not *Bullina petrosa* Conrad, Amer. Journ. Sci., ser. 2, vol. 5, p. 433, 1848, from Miocene of Oregon, nor *Bulla petrosa* Conrad, in Dana, Geol. U. S. Expl. Exp., p. 727, 1849 (= *Haminea petrosa*, Oregonian Miocene).—DALL, Trans. Wagner Inst., vol. 3, p. 18, 1890.

Rare in the Tampa silex beds, where it was first found by Conrad and later by Dall. U. S. Nat. Mus. No. 97488.

This belongs to the typical section of the genus with perforate apex and resembles *Bullaria solida*, but is of smaller size.

This species has also been collected from the Oligocene limestone of Jacksonboro, Georgia.

BULLARIA (HAMINEA ?) SULCOBASIS, new species.

Plate 6, fig. 6.

Shell small, subovate, anterior third spirally striated, posterior two-thirds smooth or faintly marked by incremental lines; whorls involved, thin, the apex depressed, showing only the external whorl; outer lip as long as the shell, thin, simple; anterior third with fine spiral striae, at first close, later coarser and with wider interspaces; around the minutely perforate umbilicus there is a narrow space free from striae; aperture behind extending beyond the apex, and rather narrow, in front wider; body with a thin wash of callus; pillar lip short, smooth with a slight free reflection over the umbilical region. Height 8.2, maximum diameter 5.4 mm.

Tampa silex beds at Ballast Point, Tampa Bay, Florida. One specimen from the Post collection, U. S. Nat. Mus. No. 165027.

This species may belong to the genus *Haminea*, but the specimen is hardly perfect enough to be positive as to its proper location.

Superorder STREPTONEURA.

Order CTENOBRANCHIATA.

Superfamily TOXOGLOSSA.

Family TEREBRIDAE.

Genus TEREBRA Bruguiere.

Terebra BRUGUIERE, Encycl. Meth., vol. 1, p. 15, 1780 (no species mentioned); Lamarck, Prodr., p. 71, 1799. Sole example, *Buccinum subulatum* Linnaeus.

Epitonium (sect. 3) BOLTEN, Mus. Boltenianum, p. 93, 1799.

Terebra DALL, Nautilus, vol. 21, No. 11, p. 124, Mar., 1908, Bull. Mus. Comp. Zool., vol. 43, No. 6, p. 246, 1908.

This group was associated with *Buccinum* by Linnæus, with *Turritella* and *Scalaria* by Bolten, and with *Cerithium* by Say. The name was used for *Turritella* in the Museum Calonnianum. A revision of the group by the writer appears as above cited.

CONUS PLANICEPS Heilprin.

Plate 6, figs. 1, 2.

Conus planiceps HEILPRIN, Trans. Wagner Inst., vol. 1, p. 110, fig. 48, 1887.—

DALL Trans. Wagner Inst., vol. 3, pt. 1, p. 25, pl. 11, figs. 5, 5a, Aug., 1890; pt. 2, p. 219, 1892.

Tampa silex beds at Ballast Point, Tampa Bay, Florida; also from silicified rock at Martin Station about 12 miles North of Ocala, Florida; Willcox. The specimen figured is U. S. Nat. Mus. No. 165029.

The species has also been found at Bailey's Mill Creek sink, in Jefferson County, Florida, about 3 miles southwest of Lloyd's station on the railway. Here the fossils occur in the form of siliceous pseudomorphs, as at Ballast Point, in a sort of clay overlying a bed of limestone, with a number of other species common to the Tampa silex beds.

CONUS ILLIOLUS, new species.

Plate 6, figs. 3, 5.

Shell solid, slender, elongate, turritid, of about $9\frac{1}{2}$ whorls; nucleus small, bulbous, of about 1 whorl, smooth and oblique; suture distinct; the shoulder of the whorl sharply keeled, the space between it and the suture slightly excavated, with two feeble spiral threads equidistant from each other, the suture, and the keel; excavated space transversely sculptured with numerous concavely flexuous, equal, close-set, slightly elevated incremental lines; suture meeting the whorl behind at nearly a right angle some distance below the keel; axial sculpture, beside that above mentioned, comprising a series of very small, short, subequal, and nearly equidistant folds on the whorl just below the keel, with subequal interspaces, which do not nodulate the keel and are stronger on the earlier whorls and nearly obsolete on the last whorl; these are crossed by two or three feeble spiral threads with narrower intervals, below which the spiral sculpture is obsolete and the surface practically smooth for two-thirds the length of the whorl; the anterior third has rather coarse spiral threading of which the first 10 are paired, the anterior 10 being coarser and equidistant, aperture narrow, outer lip (defective); pillar straight, the anterior edge a little prominent and twisted. Length 41.5, breadth at keel 17 mm.

Tampa silex beds at Ballast Point, Tampa Bay, Florida. Type-specimen from the Post collection, U. S. Nat. Mus. No. 165030.

CONUS DESIGNATUS, new species.

Plate 6, fig. 4.

Shell of moderate size with low, broadly conical spire of about 8 whorls; nucleus prominent, subglobular, inflated, smooth; subsequent

TURRIS VIBEX Dall.

Pleurotoma (*albida* var.?) *vibex* DALL, Bull. Mus. Comp. Zool., vol. 18, No. 19, p. 73, 1889.

Tampa silex beds at Ballast Point, Tampa Bay, Florida. U. S. Nat. Mus. No. 166095.

The examination of many specimens, both recent and fossil, since 1889, has confirmed the belief that this form is specifically distinct from *T. albida*. It is not only much smaller and proportionately much more slender than *albida* of the same length, but the recent form has blackish spiral bands in the periostracum between the spiral keels, while the young of *albida* is uniformly yellowish-white.

The most nearly related form is the Vicksburgian *Pleurotoma cochlearis* of Conrad, which I regard as conspecific with *T. albida*.

TURRIS (SURCULA) SERVATA Conrad.

Plate 5, fig. 16.

Pleurotoma servata CONRAD, Journ. Acad. Nat. Sci. Phila., ser. 2, vol. 1, p. 115, pl. 11, fig. 18, 1848.—DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 28, 1890.

Oligocene of Vicksburg, Mississippi, and of the Tampa silex beds at Ballast Point, Florida; Dall and Post. U. S. Nat. Mus. No. 115267.

Genus DRILLIA Gray.

Drillia GRAY, Jardine's Ann. Nat. Hist., vol. 1, p. 28, 1838. Type, *D. umbilicata* Gray.

The typical *Drillia* is a rare African shell with a flaring umbilicus, quite different from the majority of the species commonly referred to it by the authors. However, in the chaotic state of the systematic arrangement of the family which exists at present, I can do no more than follow the general practice.

DRILLIA CONDOMINIA, new species.

Plate 12, fig. 25.

Shell of moderate size, rather thin, with an elongated, turritid spire of about eight whorls, separated by a closely appressed but distinct suture; nucleus defective, subsequent whorls strongly shouldered and sculptured; axial sculpture of (on the penultimate whorl ten) rounded ribs beginning at the shoulder, on the spire reaching the suture in front, and on the last whorl obsolete on the base, with subsequent interspaces which become wider on the last part of the last whorl; these ribs are slightly protractive; lines of growth not conspicuous; spiral sculpture of (on the spire 3 to 5) revolving

Height of shell 23, of last whorl 15, maximum diameter of shell 9 mm.

Tampa silex beds, not rare. U. S. Nat. Mus. No. 166096.

This species is near *T. servata* Conrad, also found in the same horizon, but is more robust and has ten instead of only six axial ribs. It grows larger than the dimensions above given, but the description has been drawn from a more perfect if smaller specimen.

DRILLIA OSTREARUM Stearns.

Drillia ostrearum STEARNS, Proc. Boston Soc. Nat. Hist., vol. 15, p. 22, 1872.—DALL, Proc. U. S. Nat. Mus., vol. 6, p. 328, 1883.—TRYON, Man Conch., vol. 6, p. 197, pl. 34, fig. 79, 1884.—DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 30, 1890.

Oligocene of Alum Bluff, Chattahoochee River, and of the Tampa silex beds, Tampa Bay, Florida; Pliocene of the Caloosahatchie River, Florida; living from North Carolina south to Florida and Yucatan between low-water mark and 15 fathoms. U. S. Nat. Mus. No. 1122088.

A species of this type occurs in practically every horizon from the Eocene up.

DRILLIA SELLA, new species.

Plate 12, fig. 10.

Shell small, slender, acute, solid, with nine whorls separated by a closely appressed suture; nucleus smooth, plump, of about one whorl; subsequent whorls strongly and sharply sculptured; axial sculpture of (on the penultimate whorl nine) prominent rounded ribs, beginning in front of the anal fasciole, continuing over the whorl, on the spire to the suture, on the last whorl over the periphery, gradually becoming obsolete on the base; the interspaces are about equal in width to the ribs, and the incremental lines are not prominent; spiral sculpture behind the anal fasciole of a prominent keel close to the suture; the fasciole being a strong smooth-surfaced constriction, in front of which the ends of the ribs form a sort of shoulder to the whorl; there are also (on the spire three, on the last whorl nine) prominent spiral threads with wider interspaces which override the ribs and are continuous between them; the suture is laid on the fourth thread in front of the fasciole; anal sulcus shallow, rather wide; aperture narrow, outer lip prominent in the middle, sharp-edged, not varicose; inner lip raised, continuous over the body to sutural commissure, smooth; pillar smooth, canal wide and deep. Height 11.4, maximum diameter 3.7 mm.

Tampa silex beds at Ballast Point, Tampa Bay, Florida. Type-specimen from the Post collection, U. S. Nat. Mus. No. 165035.

DRILLIA TAMA, new species.

Plate 12, fig. 23.

Shell small, turritid, of about 7 whorls; nucleus defective, subsequent whorls sharply sculptured; suture distinct; axial sculpture of (on the penultimate whorl 17) equal, narrow, not nodulous ribs, with much wider intervals, which between the suture and the anal fasciole are sharply retractive, in front of the fasciole slightly protractively arcuate, and on the last whorl extend unaltered to the canal; spiral sculpture of numerous close-set equal threads, prominent on the anal fasciole and on the canal where they are more widely separated; on the last whorl these threads slightly crenulate the summits of the ribs in overriding them. Aperture defective in the specimen, the anal sulcus near the suture with a depressed narrow fasciole behind it; pillar smooth, not callous; canal short, rather wide, hardly recurved. Height of shell 10, of last whorl 5, maximum diameter about 3.5 mm.

Tampa silex beds at Ballast Point, Tampa Bay, Florida.

One specimen from the Post collection, U. S. Nat. Mus. No. 165039.

Section CYMATOSYRINX Dall.

Cymatosyrinx DALL, Bull. Mus. Comp. Zool., vol. 18, No. 29, p. 95, 1889.

Type, *Pleurotoma lunata* Lea, Miocene of Virginia.

DRILLIA GLYPHOSTOMA, new species.

Plate 5, fig. 12.

Shell small, acute, with about 9 whorls, including the small rounded nucleus; surface polished, suture distinct, axial sculpture of about 14 narrow, flexuous rather sharp ribs with subequal interspaces, the ribs cross the anal fasciole and are abruptly arcuate there, reaching the suture which they slightly undulate, and in the other direction extending to the canal; the canal and base all sculptured with faint spiral threads which seem to be missing on the rest of the shell; aperture wide behind with a conspicuous rounded anal sulcus with an outwardly flaring edge; outer lip internally much thickened, incurved with a sharp edge, but no denticulation; body and pillar with a smooth layer of callus, the canal recurved, short, with a pronounced siphonal fasciole and a chink behind the pillar-callus. Height of shell 15, of last whorl 8.5, of aperture 6, diameter above the outer lip 4 mm.

Tampa silex beds at Ballast Point, Tampa Bay, Florida; two specimens. U. S. Nat. Mus. No. 166098.

The absence of denticulations on the pillar lip removes this species from the genus *Glyphostoma* Gabb, which it otherwise much resembles, and the character of the outer lip precludes a reference to *Clathurella*.

Tampa Bay, Florida; Heilprin and Dall. U. S. Nat. Mus. No. 65077.

The following species originally described as a variety seems from additional material to be distinct.

LATIRUS MULTILINEATUS Dall.

Latirus floridanus var. *multilineatus* DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 107, 1890.

Tampa silex beds at Ballast Point, Tampa Bay, Florida; Dall and Post. U. S. Nat. Mus. No. 112121.

LATIRUS RUGATUS Dall.

Plate 8, fig. 2.

Latirus rugatus DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 107, pl. 8, fig. 7 (only), 1890.

Tampa silex beds at Ballast Point, Tampa Bay, Florida; Burns and Dall. U. S. Nat. Mus. No. 112123.

By an error in numbering figure 6 of plate 8 in the original publication was referred to this species, but it really belongs to another shell.

LATIRUS CALLIMORPHUS Dall.

Plate 7, fig. 8.

Latirus callimorphus DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 107, pl. 8, fig. 1, 1890.

Tampa silex beds at Ballast Point, Tampa Bay, Florida; Dall. U. S. Nat. Mus. No. 112122.

A single specimen was collected by the writer. It differs by its shorter canal and the number of its axial ribs from *L. multilineatus*.

Genus FUSINUS Rafinesque.

Fusinus RAFINESQUE, Anal. de la Nature, p. 145, 1815. New name for *Fusus* Lamarck, not Helbling.

Fusus BUGUIÈRE, Encycl. Méth., p. 15, 1789; nude name. Lamarck, Prodrome, p. 73, 199. Sole example, *Murex colus* Linnaeus. Not *Fusus* Helbling, 1779.

Fusinus DALL, U. S. Geol. Survey Prof. Paper 59, p. 36, 1909.

I have shown in the above-cited paper and in the Journal of Conchology (Leeds) for April, 1890, p. 289, that the familiar name *Fusus* having been first binomially used for a group of species entirely distinct from that of Lamarck can not be used for the latter, and therefore it is necessary to take the first available substitute as the name of the latter.

definitely established that a diagnosis is not essential for the validity of a generic name provided other conditions are fulfilled, I have accepted the ruling of the International Committee, and adopt *Busycon*.

BUSYCON (SPINIGER var.?) TAMPAENSE Dall.

Plate 10, fig. 5.

Fulgur spiniger var. *tampaense* DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 111, 1890.

Tampa silex beds, at Ballast Point, Tampa Bay, Florida; Shepard, Heilprin, Willcox, Dall, and Burns. U. S. Nat. Mus. No. 165075.

This is the common species of the silex beds though usually collected in an immature state, the adults appearing only as fragments. It is without doubt derived from the Vicksburgian *B. spiniger* of Conrad.

BUSYCON SPINIGER var. NODULATUM Conrad.

Plate 9, fig. 5.

Fulgur nodulatum CONRAD, Journ. Acad. Nat. Sci. Phila., ser. 2, vol. 1, p. 207, 1849; vol. 2, p. 41, pl. 1, figs 6, 7; Proc. Acad. Nat. Sci. Phila., vol. 6, p. 317, 1854.

Fulgur nodulatus GILL, Amer. Journ. Conch., vol. 3, p. 147, 1867.

Busycon (Sycopsis) nodulatum CONRAD, Amer. Journ. Conch., vol. 3, p. 184, 1867.

Fulgur spiniger var. *nodulatum* DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 110, 1890.

Oligocene of the Tampa silex beds at Ballast Point, Tampa Bay, Florida; and of the marl of the Chipola River, West Florida. Burns and Dall. U. S. Nat. Mus. No. 165076.

BUSYCON SPINIGER var. PERIZONATUM Dall.

Fulgur spiniger var. *perizonatum* DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 111, 1890.

Fulgur coronatum HEILPRIN, Trans. Wagner Inst., vol. 1, p. 108, 1887, not of Conrad, Bull. Nat. Inst., p. 187, 1849.

Tampa silex beds, at Ballast Point, Tampa Bay, Florida; rare. Heilprin, Burns. U. S. N. Mus. No. 112126.

BUSYCON STELLATUM Dall.

Plate 10, figs. 7, 9.

Fulgur stellatum, DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 114, pl. 4, fig. 9, 1890.

Tampa silex beds, at Ballast Point, Tampa Bay, Florida; rare; Dall. U. S. Nat. Mus. No. 165074.

Family COLUBRARIIDAE.

Genus CANTHARUS Bolten.

Cantharus BOLTEN, Mus. Boltenianum, p. 132, 1798, First species, *Buccinum tranquebaricum* Gmelin.

Tritonidea SWAINSON, 1840.

CANTHARUS PAUPER Dall.

Plate 7, fig. 5; plate 10, fig. 12.

Tritonidea pauper DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 129, pl. 4, fig. 3c, 1890.

Tampa silex beds, Dall and Post. U. S. Nat. Mus. No. 165079.

This pretty little species belongs to the group of *C. orbignyi* Payraudeau which occurs both in the Mediterranean and Floridian recent fauna, indicating a considerable antiquity for the race.

Genus PHOS Montfort.

Phos MONTFORT, Conchyl. Syst., vol. 2, p. 494, 1819. Sole example, *Murex senticosus* (Linnaeus) Gmelin.

Muricidea SWAINSON (sp.) Mal., p. 294, 1840.

PHOS, sp. indet.

An indeterminable species of *Phos* was collected from the Tampa silex beds at Ballast Point by the late Frank Burns. Since then, Mr. E. J. Post, of Tampa, has obtained imperfect specimens of a different species. Unfortunately neither of them is in a sufficiently perfect state to make it advisable to describe it.

Family ALECTRIONIDAE.

Genus ALECTRION Montfort.

Alectrion MONTFORT, Conch. Syst., vol. 2, 1810, p. 565. Monotype, *Buccinum papillosum* Linnaeus.

Nassa LAMARCK, Prodrome, 1799, p. 71. Monotype, *Buccinum mutabile* Linnaeus. Not *Nassa* Bolten, 1798.

Tritonella A. ADAMS, 1853; not of Swainson, 1840.

Alectrion DALL, Bull. Mus. Comp. Zool., vol. 43, No. 6, 1908, p. 306.

ALECTRION URSULA, new species.

Plate 12, fig. 13.

Shell small, fusiform, strongly sculptured, with about 5 whorls, the apex of the spire defective in the specimen; suture appressed, distinct; nucleus lost; subsequent whorls axially sculptured with (on the last whorl 10) rounded ribs, with wider interspaces, extending from suture to suture and, on the last whorl to the canal,

calary thread frequently intervening: final varix strong, the body without callus, the outer lip with small denticles internally, siphonal fasciole feeble, canal (defective), aperture large, obovate. Height 16, of last whorl 11, maximum diameter 11.3 mm.

Tampa silex beds, collected by E. J. Post, but received too late for figuring. U. S. Nat. Mus. No. 214737.

This species belongs to the group of *A. reticulor* C. B. Adams, of the Pacific coast recent fauna. It is named in honor of Miss Julia Gardner, of the Johns Hopkins University, whose work in paleontology of our Tertiary has been praiseworthy.

Family COLUMBELLIDAE.

Genus COLUMBELLA Lamarck.

Columbella LAMARCK, Prodrôme, 1799, p. 70. Monotype, *Volva mercatoris* Linnaeus.

Columbella LAMARCK, An. & Vert., vol. 7, p. 292, 1822.

The genus *Pyrene* Bolten, proposed in 1798, for *Buccinum punctatum* Bruguière (*semipunctatum* Lamarck) is sufficiently distinct from the true *Columbellas* to be regarded, as by the brothers Adams, as a distinct genus, although it has sometimes been held to preoccupy the name of the Lamarckian genus.

Subgenus ANACHIS H. and A. Adams.

Anachis H. and ADAMS, Gen. Rec. Moll., vol. 1, p. 184, 1853: no type selected.—DALL, Proc. Boston Soc. Nat. Hist., vol. 13, 1870, p. 242. Sole species, *A. crura* Say.

ANACHIS EUTHERIA, new species.

Plate 12, fig. 11.

Shell small, slender, attenuated, with a minute blunt tip of 2 smooth, inflated whorls, and about $6\frac{1}{2}$ subsequent reticulately sculptured whorls; suture well defined, but not appressed or channeled; sculpture of, on the penultimate whorl, about 16 rather sharp, uniform, axially directed lamellae, slightly concavely flexuous on the later whorls, and passing from the suture over the whole whorl to the canal without enlargement or nodulation; these are crossed between the sutures by 4 or 5, and on the last whorl by 13 narrow, equal revolving threads, flat-topped, and about equal to the lamellae on the spire; dividing the surface into rather deep rectangular reticulations; on the last whorl the lamellae assume the form of narrow ribs; there are a few spiral smaller threads on the short canal; aperture narrow, pointed behind, with a short, wide canal in front; pillar smooth, not callous, the anterior portion slightly twisted; outer lip

owly lunate, the outer lip slightly protractively arcuate, simple; inner lip smooth; canal short, wide, slightly recurved; aperture obstructed by matrix, so that the existence of lirae on either lip is doubtful. Height of shell 4.3, of last whorl 3, maximum diameter 2 mm.

Tampa silex beds at Ballast Point, Tampa Bay, Florida.

Type-specimen from the Post collection, U. S. Nat. Mus. No. 165083.

ASTYRIS ACANTHODES, new species.

Plate 4, fig. 4.

Shell small, acute, of about 6 whorls regularly increasing; suture distinct; surface smooth except for 4 or 5 minute spiral grooves on the canal; whorls not inflated; outer lip thickened with 6 or 7 low denticles internally; body and pillar with a smooth, thin layer of callus, canal very short and deeply notched. Height of shell 6, of aperture 2, maximum diameter 2.5 mm.

Tampa silex beds at Ballast Point, Tampa Bay, Florida; one specimen. U. S. Nat. Mus. No. 166100.

This little shell is almost identical with one which we have without a name in the collection of the United States National Museum from the Natural Well, Duplin County, North Carolina, of Miocene age.

Family MURICIDAE.

Genus MUREX (Linnaeus) Bolten.

Murex LINNAEUS. Syst., Nat., ed. 10, p. 746, 1758. First species, *M. haustellum* Linnaeus.—BOLTEN, Mus. Boltenianum, p. 144, 1798. First species, *M. haustellum* Linnaeus.

All Bolten's species of *Murex* belong to the group as commonly restricted.

Subgenus MUREX sensu strictu.

Type.—*Murex haustellum* Linnaeus.

MUREX MISSISSIPPIENSIS Conrad.

Plate 5, fig. 10.

Murex mississippiensis CONRAD, Journ. Acad. Nat. Sci. Phila., series 2, vol. 1, p. 116, pl. 11, fig. 30, 1848.—DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 139, 1890.

Murex tritonopsis HEILPRIN, Trans. Wagner Inst., vol. 1, p. 107, pl. 15, fig. 39, 1887.

Oligocene of Vicksburg, Mississippi, Conrad; of the Tampa silex beds, Heilprin and Dall; and of the Chipola marls near the county bridge over the Chipola river, formerly Bailey's Ferry, Florida, Dall. U. S. Nat. Mus. No. 166102 and 168085.

Genus CHICOREUS Montfort.

Chicoreus MONTFORT, Conch. Syst., vol. 1, 1810, p. 611. Type, *Murex ramosus* Linnaeus.

CHICOREUS LARVAECOSTA Heilprin.

Murex larvaecosta HEILPRIN, Trans. Wagner Inst., vol. 1, p. 106, pl. 15, fig. 37, 1887.—DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 140, 1890.

Tampa silex beds at Ballast Point Tampa Bay, Florida; rare; Heilprin and Post. U. S. Nat. Mus. No. 165087.

CHICOREUS CRISPANGULA Heilprin.

Plate 5, fig. 14.

Murex crispangula HEILPRIN, Trans. Wagner Inst., vol. 1, p. 107, pl. 15, fig. 38, 1887.

Murex (Chicoreus) crispangula DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 140, 1890.

Tampa silex beds at Ballast Point, Tampa Bay, Florida; two specimens, Heilprin and Post. U. S. Nat. Mus. No. 214442.

This is related to *M. larvaecosta*, having the same number of varices, but is less prominent and angular at the shoulder.

CHICOREUS BURNSII Whitfield.

Murex shilohensis var. *burnsii* (Whitfield Ms.) DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 141, 1890.—WHITFIELD, Miocene Gastr. N. J., p. 98, pl. 17, fig. 2, 1894.

Oligocene of the Tertiary marls at Shiloh, New Jersey, Whitfield; Tampa silex beds at Ballast Point, Tampa Bay, Florida. U. S. Nat. Mus. No. 112065.

Genus PURPURA Martyn.

Purpura MARTYN, Univ. Conch., vol. 2, table, pl. 66, fig. 1, 1784. Sole example, *Purpura foliata* Martyn.

Cerostoma CONRAD, 1837, not of Latreille, 1802.

Pterorhysis CONRAD, Proc. Acad. Nat. Sci. Philadelphia for 1862, p. 560.

Type, *Murex umbrifer* Conrad, Tert. Fos., 1832, p. 17, pl. 3, fig. 1.—DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 143, 1890.

Not *Purpura* LAMARCK, Prodrôme, p. 71, 1799 (*P. persica* Linnaeus).

Purpura DALL, Proc. Biol. Soc. Wash., vol. 18, p. 189, 1905; Proc. U. S. N. Mus., vol. 29, p. 427, 1905; U. S. Geol. Survey, Prof. Paper 59, p. 45, 1909.

I have fully demonstrated in the publications above referred to the necessity of returning to the usage of the ancients who applied the name *Purpura* especially to certain purpuriferous muricoid shells, a practice Lamarck was the first to violate.

There is more or less variation in the amplitude of the umbilicus. *Phora quadricostata* is unknown from the Oligocene.

RAPANA BICONICA, new species.

Plate 13, fig. 10.

Shell heavy, solid, biconic, of 5 or 6 whorls (the nucleus defective in the specimen); spire less than half as long as the aperture, short conic with flattish slopes; suture distinct, on the early whorls a little undulated as if by obsolete ribs; axial sculpture chiefly of rather prominent incremental lines, which give a rough feel to the surface; spiral sculpture of a well-marked carina at the periphery and between the sutures about 10 revolving threads, of which the anterior half are rather smaller than the others; in front of the periphery of the last whorl are 4 more flattened cords separated by narrow grooves and mostly with a smaller groove dividing the flattened surface of the cord; in front of these are 10 or 12 wider straplike revolving ridges, of which the surface is divided usually by two smaller grooves and which extend to the canal; aperture subquadrate; outer lip thin, sharp, crenulate by the spiral sculpture; body with the sculpture erased; pillar smooth, slightly twisted; siphonal fasciole strong with a deep chink between it and the anteriorly reflected pillar; canal wide, rather long, and a little recurved. Height of shell 51, of aperture 32, maximum diameter of shell 25 mm.

Tampa silex beds at Ballast Point, Tampa Bay, Florida. E. J. Post, U. S. Nat. Mus., No. 165092.

Family EULIMIDAE.

Genus MELANELLA Bowdich.

Melanella BOWDICH, Elem. Conch., vol. 1, p. 27, 1822, type, *M. dufresnii* Bowdich, Elem. Conch., vol. 1, pl. 6, fig. 17.—DALL, Rep. Blake Gastr. Bull. Mus. Comp. Zool., vol. 18, p. 326, June, 1889.—FISCHER, Journ. de Conchyl., vol. 25, 1887, p. 197. Not *Melanella* Bory St. Vincent, 1824, Swainson, 1840, or Mörch 1852.

Eulima RISSO, Hist. Nat. Eur. MÉR., vol. 4, 1826, p. 123; first species, *E. elegantissima* Risso (= *Turbo politus* Gmelin, fide Jeffreys); only figured species *E. subulata* Brocchi, 1814, which is a fossil extremely close to *Turbo subulata* Donovan, 1804.

Balcis (Leach MS. 1819) GRAY, Ann. Mag. Nat. Hist., vol. 20, 1847, p. 271. First species, *Helix polita* Montagu (as *B. montagui* Leach); Proc. Zool. Soc. London, 1847, p. 160, example named by Gray, "*Helix subulata*."

Leiostraca H. and A. ADAMS, Gen. Rec. Moll., vol. 1, 1853, p. 237. Type, *L. metcalfei* A. Adams. Gen. Rec. Moll., vol. 3, pl. 25, fig. 3a. Not *Leiostracus* Albers, 1850, nor *Liostracus* Martens, 1860.

Vitreolina MONTEROSATO, Nom. Conch. Medit., 1884, p. 100. Type, *E. distorta* Jeffreys, not Deshayes. (Section of *Eulima*.)

Acicularia MONTEROSATO, Nom. Conch. Medit., 1884, p. 102. Type, *Eulima beryllina* Monterosato. (Section of *Eulima*.) Not *Acicularia* Adams, 1875.

Subularia MONTEROSATO, Nom. Conch. Medit., 1884, p. 103. New name for *Liostraca* H. and A. Adams.

Haliella MONTEROSATO, Bol. Malac. Ital., 1880, p. 74. Type, *Eulima stenostoma* Jeffreys. Not *Haliella* Ulrich, 1891.

Melanella and *Eulima* DALL, Bull. Mus. Comp. Zool., vol. 18, 1889, p. 326.

Melanella proposed by Bowdich four years earlier than *Eulima* should, as pointed out by Fischer in 1887, be accepted as the generic name of this genus as originally conceived. However, in dividing the genus into groups, it is still possible to retain the familiar name of *Eulima*, as indicated by me. The researches of my colleague, Dr. Paul Bartsch, have shown that the groups in this genus are difficult to separate sharply by the shell; the absence of characters except of the most simple kind is, one may say, characteristic of the shells of the genus.

The anatomical relations are hardly more satisfactory. Since these animals are found even at great depths, as well as between tides, and comprise both free-living species and those which are commensal or even truly parasitic, they are subject especially to the direct action of the environment, including degenerations due to disuse of organs.

Rosen has found *Eulima polita*, a large free species, to be possessed of a radula "mit zahlreichen Zahnen." This species also has eyes situated behind the tentacles, and a well developed operculum. *Eulima distorta*, however, a parasitic species, is without a radula, living on the juices of its host. The former is opaque and (for the genus) heavy; the latter, as its situs requires, is smaller, pellucid, and thin. It is well known that deep-sea shells lose weight and color, and frequently their optical organs; *Eulima stenostoma* Jeffreys lives in 75 to 410 fathoms, and has the aspect of shallow-water species, which bear color markings. It is, however, colorless and blind. The peculiar tortuosity of the spire characteristic of typical *Melanella* is found in all degrees of emphasis, some specimens of the same species being absolutely straight axially and others more or less tortuous, contrary to the opinion I had formed from insufficient material in 1889. It is, therefore, evident that this character can not be used to divide groups. The acuteness of the apex varies in different species, and the position of the varices, with relation to each other, in the same species is not constant; nor, Doctor Bartsch assures me, does the presence of internal projections due to the

varices (a character used by Monterosato) preserve constancy. It is, therefore, evidently a difficult task to divide the genus naturally.

Risso named no type, but the only species figured by him belongs to the group afterwards called *Leiostraca* by H. and A. Adams. *Melanella* Bowdich is monotypical; the species named by him *M. dufresnii* is supposed to be that later called *Eulima major* Sowerby. *Eulima polita* Risso's first species is a *Melanella*, and a type must therefore be selected from among the others, and his figured species *E. subulata* Brocchi (and probably also of Donovan, 1804) is the most appropriate.

A tentative arrangement follows:

Genus MELANELLA Bowdich, 1822.

Type of the genus—*Melanella dufresnii* Bowdich.

Shell white or colorless, usually solid, free living, with an ovoid operculum with a small, partly spiral nucleus, the aperture holostomate when adult, the whorls nearly or quite flat-sided, the suture, appressed, the pillar and peristome simple and slightly thickened. Animal with slender tentacles, the eyes sessile behind or slightly outside the tentacular bases, with no epipodial lobes; a radula present; the anterior margin of the foot double and squarely truncate; the sexes separated. The parasitic and commensal species often with certain organs degenerate, absent, or specially modified to suit their mode of life.

Subgenus MELANELLA sensu strictu.

Characters as above stated, *Balcis* Gray, *Vitreolina* Monterosato, and *Acicularia* Monterosato (1884, not *Acicularia* Adams, 1875) are synonymous.

Subgenus EULIMA Risso, 1826.

Type.—*Turbo subulata* Brocchi.

Shell usually with colored bands or streaks, thin pellucid, straight, the whorls axially wider than in *Melanella*, acute, slender, the pillar straight, the outer lip sharp, simple, the aperture elongate oval. Animal and operculum much as in *Melanella*.

Leiostraca H. and A. Adams, 1853, in part; *Subularia* Monterosato, 1884, in part; and *Eulima* (sp.) of Authors, are synonymous.

Section HALIELLA Monterosato, 1880.

Type.—*Eulima stenostoma* Jeffreys.

Shell resembling *Eulima* s. s. (in the typical species colorless) but with the columella distinctly twisted. The animal in the typical species is blind.

whorls slightly convex; aperture sublunate; outer lip protractively arcuate, passing insensibly into the columellar lip, which is thickened, prominent, and with a slight depression behind it. Length of $5\frac{1}{2}$ decollate whorls 7.5, of last whorl 4, maximum diameter 3 mm.

Tampa silex beds at Ballast Point, Tampa Bay, Florida. One specimen from the Post collection, U. S. Nat. Mus. No. 165093.

Family PYRAMIDELLIDAE.

Genus PYRAMIDELLA Lamarck.

Pyramidella LAMARCK, Prodrôme, p. 76, 1799. Monotype, *Trochus dolabratus* Linnaeus.

Obeliscus ANONYMOUS, Mus. Calonnianum, p. 24, 1797. First species, *Voluta dolabrata* Solander, manuscript.

Obeliscus is proposed in an anonymous work which is rejected as an authority for nomenclature by the International Commission on Nomenclature, there is no diagnosis or figure, and the two species mentioned are manuscript names. We need not therefore concern ourselves with the name *Obeliscus* in any event.

Subgenus LONGCHAEUS Mörch.

Longchæus MÖRCH, Malak. Blatt, vol. 20, 1875, p. 158. Type, *Pyramidella punctata* Schubert and Wagner.—DALL and BARTSCH, Mon. W. Amer. Pyr., Bull. U. S. Nat. Mus., No. 68, p. 21, 1909.

PYRAMIDELLA (LONGCHAEUS) CRENULATA Holmes.

Plate 13, fig. 4.

Obeliscus crenulatus HOLMES, Post. Plioc. fos. S. Car., p. 88, pl. 13, figs. 14, 14^a, 1860.

Jacksonian Eocene to Recent. Tampa silex beds at Ballast Point, Tampa Bay, Florida. U. S. Nat. Mus. No. 165164.

This species appears without perceptible change in different horizons from that of the Jackson up to the Pleistocene and is found living in moderate depths of water from the West Indies northward to South Carolina.

Genus TURBONILLA Risso.

Turbonilla RISSO, Hist. Nat. Eur. Mer., vol. 4, 1826, p. 224. Type, *Turbonilla plicata* Risso, 1826 (not Brocchi, 1814). *T. typica* Dall and Bartsch, Bull. U. S. Nat. Mus. No. 68, pp. 28, 29, 1909.

Subgenus PTYCHEULIMELLA Sacco.

Ptycheulimella SACCO, Moll. Piem. e. della Liguria, pt. 11, 1892, p. 59. Type, *Tornatella pyramidata* Deshayes.

CYPRAEA HEILPRINII Dall.

Plate 3, figs. 2, 14.

Cypraea heilprinii DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 166, pl. 11, figs. 2, 2^a, 1890.

Oligocene (Nummulitic) of Ocala, Florida, and at Ballast Point in the silex beds and overlying "orbitolite bed," Tampa Bay, Florida. U. S. Nat. Mus. No. 112073.

CYPRAEA BALLISTA, new species.

Plate 6, figs. 9, 10, 11.

Shell small, pyriform, with a slight dimple over the spire, the sides of the base somewhat expanded by callus; aperture rather wide and flexuous, with (on the right side 25 and on the opposite side about 10) sharp-edged lirae or denticulations, which do not extend over the base, but on the left side pass deeply into the aperture; these are separated by interspaces of greater width which on the right side are somewhat excavated, on the left side rather less so; posterior sinus curved upward, anterior sinus direct. Length 27, maximum width 19, height 16 mm.

Tampa silex beds at Ballast Point, Tampa Bay, Florida. U. S. Nat. Mus. No. 165098.

This form is more attenuated behind and has a flatter base, wider aperture behind, less adjacent teeth, and the anterior sinus less recurved and smaller than in *C. heilprinii*. *C. tumulus* has the teeth closer together, the base not expanded, and the aperture less flexuous. It is also consistently smaller than *C. ballista*.

Family CASSIDIDAE.

Genus MORUM Bolten.

Morum BOLTEN, Mus. Bolt., p. 53, 1798. Sole example, *Strombus oniscus* Gmelin.—DALL, Prof. Paper No. 59, U. S. Geol. Survey, p. 67, 1909.

Section HERCULEA Hanley.

Herculea HANLEY, in H. and A. Adams, Gen. Rec. Moll., vol. 2, p. 621, Nov., 1858.—DALL, Prof. paper No. 59, U. S. Geol. Survey, p. 68, 1909.

MORUM DOMINGENSE Sowerby.

Plate 12, fig. 28.

Oniscus domingensis SOWERBY, Quart. Journ. Geol. Soc., London, vol. 6, pt. 1, 1849, p. 47, pl. 10, fig. 3 (Santo Domingo).—HEILPRIN, Trans. Wagner Inst., vol. 1, p. 120, 1886.

Morum domingense GABB, Trans. Amer. Philos. Soc., vol. 15, p. 223, 1873.

Lambidium domingense DALL, Trans. Wagner Inst., vol. 3, pt. 6, p. 1567, 1908.

Morum (Herculea) domingense DALL, Prof. paper, No. 59, U. S. Geol. Survey, p. 69, 1909.

the Tampa silex beds at Ballast Point, Tampa Bay, Florida. U. S. Nat. Mus. No. 165099.

This is the typical species of the genus, distinguished by its long-ovate, elevated form, of which immature specimens have been figured by Gabb and Guppy.

ORTHAULAX PUGNAX Heilprin.

Plate 15, figs. 5, 10.

Wagneria pugnax HEILPRIN, Trans. Wagner Inst., vol. 1, p. 106, pl. 15, figs. 36, 36a, 1887.

Orthaulax pugnax DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 170, pl. 8, figs. 5, 8, 1890.

Middle Oligocene of the Tampa silex beds, at Ballast Point, Tampa Bay, Florida, Heilprin and Dall; also at Bainbridge, Georgia, the islands of Antigua and Cuba, and in the Canal Zone, Panama, MacDonald. U. S. Nat. Mus. No. 165100.

This is the commoner species of the silex beds, though usually badly broken, and can be discriminated from the other two Floridian species by its short, stout, and remarkably heavy shell. So far as yet known, it also has the widest geographical range.

ORTHAULAX GABBI Dall

Orthaulax gabbi DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 170, pl. 12, figs. 5, 5a, 5b, 1890.

Oligocene marl of the lower bed at Alum Bluff and the adjacent marl of the Chipola River, Florida. Burns and Dall.

I have included a reference to this species, though it is not known yet from the silex beds, for the sake of completeness and because it may at any time turn up in other Middle Oligocene beds. It is more strombiform than either of the other species and has been well figured. The species occur in large numbers at Alum Bluff, but the expanded outer lip is almost invariably defective.

Genus STROMBUS (Linnaeus) Lamarck.

Strombus LINNAEUS, Syst. Nat., ed. 10, p. 742, 1758.

Strombus LAMARCK, Prodrôme, p. 72, 1799. Sole example, *S. pugilis* Linnaeus.

STROMBUS CHIPOLANUS Dall.

Plate 9, figs. 8, 10.

Strombus chipolanus DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 176, pl. 4, fig. 1, 1890; pt. 2, p. 263, pl. 13, figs. 1, 3, 1892.

Oligocene marls of the Chipola River, West Florida, and Tampa silex beds, Ballast Point, Tampa Bay, Florida. Dall and Burns. U. S. Nat. Mus. No. 112227.

This is a common species at Chipola, but so far only fragmentary at Ballast Point. The *S. albirupianus* Dall, from the White lime-

BITTIUM (PRISCUM var.?) SORA, new variety.

A shell which may be a variety of *B. priscum* and is only represented by a single specimen has been received too late for figuring. It has 11 whorls and an acute apex; the whorls in front of the suture are excavated and plain; at the periphery there is one strong spiral thread separated by an interval from two closely adjacent threads in front of it, and in the later whorls a still stronger thread just behind the suture and on the last whorl marginating the base; the base is flattish, with four or five fine spiral threads, and the canal obsolete. The axial sculpture is of numerous obscure riblets which slightly undulate the spirals. Height 8.75; of last whorl 3.5; maximum diameter 3.0 mm.

Tampa silex beds, collected by E. J. Post, U. S. Nat. Mus., No. 214740.

BITTIUM ADELA, new species.

Plate 13, fig. 16.

Shell small, thin, with 8 rather rapidly increasing whorls; spire conic, apex acute; suture distinct, not channeled; axial sculpture of (on the penultimate whorl eleven) short nodular ribs, conspicuous on the periphery, obsolete toward the sutures; behind the periphery the whorl slopes flatly toward the preceding suture, the anterior slope is much shorter and terminates at a carina in front of which the next suture is laid; on this slope there is spiral sculpture of four or more fine close-set revolving threads; the posterior slope is similarly sculptured, and on the periphery there are indications of a slightly stronger but similar single thread; the sculpture is essentially the same over the whole spire; base of the shell limited by the post sutural carina before mentioned; flattish, sculptured with about nine revolving little elevated threads, with slightly wider interspaces; canal short, distinct; outer lip thin, defective, not internally lirate; aperture subquadrate. Length 8.5, maximum diameter 4.5 mm.

Tampa silex beds, Ballast Point, Tampa Bay, Florida. One specimen, possibly immature, from the Post collection, U. S. Nat. Mus. No. 165104.

Genus CERITHIUM Bruguière.

Cerithium (part) BRUGUIÈRE, *Encycl. Méth.*, pt. 2, 1792, p. 467.—LAMARCK, *Prodrome*, 1799, p. 73. Type, *Murex aluco* Linnaeus.

Pseudovertagus VIGNAL, *Bull. Mus. Nat. Hist. Paris*, p. 358, 1904.

CERITHIUM GEORGIANUM Lyell and Sowerby.

Cerithium georgianum LYELL and SOWERBY, *Quart. Journ. Geol. Soc. London*, vol. 1, p. 439, fig. —, 1845.—DALL., *Trans. Wagner Inst.*, vol. 3, pt. 2, p. 278, 1892.

Tampa silex beds Ballast Point, Tampa Bay, Florida; also in the rock dredged from the ship channel off the point, and from the Oli-

on the two succeeding whorls 1, on the next whorl 3, on the fourth whorl 4, and on the last whorl 8 spiral ridges, crossing about 16 axial ribs and slightly nodulous at the intersections, the interstitial reticulations looking like squarish pits; the whorls are slightly turreted by the sculpture and the suture very distinct; the aperture ovate, the outer lip thickened and outwardly denticulated by the ends of the spirals; a thick layer of callus on the body; the anterior sulcus distinct, the whorls under the sculpture well rounded; length of shell 5.2, of last whorl 3, maximum diameter 2.3 mm.

Tampa silex beds at Ballast Point, Tampa Bay, Florida. One specimen. U. S. Nat. Mus. No. 166105.

This species is nearest to *C. milium* Dall, of the Pleistocene and recent fauna at Colon, Panama.

Genus POTAMIDES Brongniart.

Potamides BRONGNIART, Ann. du Muséum, Paris, vol. 15, 1810, p. 368. Sole example, *P. lamarckii* Brongniart. Oligocene.

POTAMIDES HILLSBOROËNSIS Heilprin.

Plate 8, fig. 5.

Cerithium hillsboroënsis HEILPRIN, Trans. Wagner Inst., vol. 1, p. 124, pl. 8, fig. 67, 1887.

Potamides hillsboroënsis DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 286, pl. 15, fig. 12, 1892.

Tampa silex beds, Dall; also in the overlying Orbitolite bed or Tampa limestone at Ballast Point and on the Hillsboro river near Tampa Bay, and on the Chattahoochee River near the railway bridge at Chattahoochee, northwest Florida, and in the Wakulla county limestone; Burns and Willcox. U. S. Nat. Mus. No. 164700.

POTAMIDES (LAMPANELLA) TRANSECTA Dall.

Plate 14, fig. 3.

Potamides (Lampanella) transecta DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 189, pl. 11, fig. 7, 1890; pt. 2, p. 287, 1892.

Tampa silex beds at Ballast Point, Tampa Bay, Florida, where it is not uncommon, Willcox, Burns, and Dall. U. S. Nat. Mus. No. 112525.

Subgenus PYRAZISINUS Heilprin.

Pyrazisinus HEILPRIN, Trans. Wagner Inst., vol. 1, p. 115, 1887.—DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 287, 1892.

Sole example and type *P. campanulatus* Heilprin.

Family CERITHIOPSIDAE.

Genus CERITHIOPSIS Forbes and Hanley.

Cerithiopsis FORBES and HANLEY, Brit. Moll., vol. 3, p. 364, 1853. Type, *Murex tubercularis* Montagu.

CERITHIOPSIS SILICATA, new species.

Plate 12, fig. 19.

Shell small with an acute apex, later becoming subcylindrical; nucleus lost, the next 2 or 3 whorls with 2 elevated spiral threads and no axial sculpture, followed by whorls with 3, gradually increasing to four straplike spirals over riding numerous axial stouter rounded ribs with equal interspaces extending nearly from suture to suture, and forming nearly square deep equal pits by their intersections; suture close, but the elevated spirals on each side of it give it a deeply channelled aspect; there are three spirals on the rather convex base diminishing in size forward, but only incremental axial sculpture; aperture defective, but without lirae; remaining whorls in all, 10. Height, 6.5; maximum diameter, 2 mm.

Tampa silex beds at Ballast Point, Tampa Bay, Florida; Dall. U. S. Nat. Mus. No. 165,111.

Family TRICHOTROPIDAE.

Genus TRICHOTROPIS Broderip and Sowerby.

Trichotropis BRODERIP and SOWERBY, Zool. Journ., vol. 4, 1826, p. 373. Type, *Turbo bicarinatus* Sowerby.

Subgenus CERITHIODERMA Conrad.

Cerithioderma CONRAD, Journ. Acad. Nat. Sci. Phila., ser. 2, vol. 4, p. 295, March, 1860.—DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 293, 1892.

TRICHOTROPIS (CERITHIODERMA) PRIMA Conrad.

Cerithioderma prima CONRAD, Journ. Acad. Nat. Sci. Phila., ser. 2, vol. 4, p. 295, pl. 47, fig. 30, 1860.—DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 293, 1892.

Mesostoma rugosa HEILPRIN, Proc. Acad. Nat. Sci. Phila., 1879, p. 215, pl. 13, fig. 13.—MEYER, Ber. Senckenb. Ges., 1887, p. 18.

Middle and upper Eocene of Claiborne, Mississippi, and Lisbon, Alabama. Oligocene of the Tampa silex beds? U. S. Nat. Mus. No. 113394.

The specimen from Ballast Point is in such poor condition that the identification of the species is doubtful.

no visible sculpture; base rounded to the angular margin of a narrow flatly excavated groove behind the inner lip; aperture ovate, retractorily oblique, entire, the margin crossing the body with a band of callus; outer lip thin, entire; inner lip a little thickened behind, passing evenly into the outer lip in front. Height 5.75, maximum diameter 3.5 mm.

Tampa silex beds, Ballast Point, Tampa Bay, Florida.

One specimen in the Post collection, U. S. Nat. Mus. No. 165124.

Family CAECIDAE.

Genus CAECUM Fleming.

Caecum FLEMING, Edinb. Encycl., vol. 7, p. 67, 1817. Fig'd species, *C. glabrum*, Edinb. Encycl., vol. 7, pl. 204, fig. 7.

Caeculum FLEMING, Philos. Zool., 1822, *vide* Macgillivray, Moll. Aberdeen, pp. 25, 39, 1843.

Brochus BROWN, Ill. Conch. Gt. Brit., ed. 1, 1827, expl. pl. 10.

CAECUM SOLITARIUM O. Meyer.

Caecum solitarium O. MEYER, Alabama Geol. Rep., p. 68, pl. 3, fig. 9, 1886.—DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 297, 1892.

Oligocene of Vicksburg, Mississippi (Meyer), and of Ballast Point, Tampa Bay, Florida, in the silex beds. U. S. Nat. Mus. No. 113396.

Family VERMETIDAE.

Genus SERPULORBIS Sasso.

Serpulorbis SASSO, Glorn. Ligustica, 1827, p. 482.—BRONN, Ital. Tertlärgeb., p. 65, 1831.

SERPULORBIS GRANIFERA Say.

Serpula granifera SAY, Journ. Acad. Nat. Sci. Phila., ser. 1, vol. 4, p. 154, pl. 8, fig. 4, 1824.

Serpulorbis granifera DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 303, 1892.

Oligocene of Tampa silex beds at Ballast Point, Tampa Bay, Florida, and at White Beach, near Osprey, Florida, Dall; also at Martins Station, Hernando County, Florida, Willcox. Miocene of Maryland, Finch; and of City Point, Virginia, Haldeman. U. S. Nat. Mus. No. 165113.

SERPULORBIS BALLISTAE Dall.

Plate 14, fig. 4.

Serpulorbis (granifera var.?) ballistae DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 304, pl. 22, fig. 21, 1892.

Tampa silex beds at Ballast Point, Tampa Bay, Florida, Willcox and Dall. U. S. Nat. Mus. No. 165114.

Genus SILIQUARIA Lamarck.

Siliquaria LAMARCK, Prodrôme, 1799, p. 73. Type, *Serpula anguina* Linnaeus.

SILIQUARIA VITIS Conrad.

Siliquaria vitis CONRAD, Foss. Tert. Form., ed. 1, pt. 3, p. 36, Aug., 1833; ed. 3, p. 47, pl. 17, fig. 3, 1845.—DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 307, 1892.

Tenagoda vitis CONRAD, Amer. Journ. Conch., vol. 1, p. 33, 1865.

Eocene of the Claiborne sands. Oligocene of the Tampa silex beds, Ballast Point, Florida, Dall. U. S. Nat. Mus. No. 165112.

Family TURRITELLIDAE.

Genus TURRITELLA Lamarck.

Turritella LAMARCK, Prodrôme, p. 74, 1799. Sole example, *T. terebra* Linnaeus.

Terebra (ANONYMOUS) Mus. Calonnianum, 1797, not of Bruguière

Aculea PERRY, Conch., 1811.

Turritellus MONTFORT, 1810

Epitonium No. 2, BOLTEN, Mus. Boltenianum, p. 92, 1798.

TURRITELLA TAMPÆ Heilprin.

Plate 14, fig. 1.

Turritella tampæ HEILPRIN, Trans. Wagner Inst., vol. 1, p. 113, pl. 8, fig. 53, 1887.—DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 309, pl. 17, fig. 8, 1892.

Tampa silex beds at Ballast Point, Tampa Bay, Florida, Willcox Shepard, and Dall. U. S. Nat. Mus. No. 165119.

The almost microscopic spiral threads with which the entire surface is covered are not attempted to be shown on the figure given.

TURRITELLA TAMPÆ var. TRIPARTITA Dall.

Plate 5, fig. 1.

Turritella tampæ var. *tripartita* DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 309, 1892.

Tampa silex beds at Ballast Point, Tampa Bay, Florida, Dall. U. S. Nat. Mus. No. 112588.

This variety has the equatorial constriction marginate on both sides by a primary cord, with one marginating the suture behind; the other primaries obsolete, the fine spiral striation remaining. The surface of the whorl is thus divided into three equal striated bands, separated by two prominent threads.

Two specimens of this variety were found among the numerous *Turritellæ* collected from the Ballast Point beds.

TURRITELLA SYSTOLIATA, new species.

Plate 9, fig. 6.

Shell large, solid, with rather rapidly increasing whorls, medially constricted whorls, and with the basal carina conspicuously overhanging the succeeding whorl; spiral sculpture on the upper part of the spire of two small beaded threads in the middle of the whorl, with two more conspicuous flattish transversely nodulous cords on each side of them, a wide, nearly smooth space on each outer side, and on the basal carina a still more prominent rippled cord; on the later part of the shell a more or less numerous series of small interstitial threads is found, and the anterior major cord behind the carina becomes more conspicuous than the others; over the whole surface small, wavy spiral grooves appear under a magnifier; the axial sculpture consists only of incremental lines, which indicate a deep, wide sulcus in the outer lip about the middle of the whorl; base apparently flattened; specimen decollate, diameter at the decollation 7 mm., length of nine whorls 74, maximum diameter of last whorl 24, of the constricted part of the same 19 mm.

Tampa silex beds at Ballast Point, Tampa Bay, Florida. U. S. Nat. Mus. No. 166103.

This remarkably fine species appears to be rare. In its rapidly increasing whorls it recalls *T. megalobasis* Dall, but is quite differently sculptured.

TURRITELLA LITHARIA, new species.

Plate 13, fig. 2.

Shell small, slender, the type-specimen with 9 whorls, the apex being decollate; sculpture of the early whorls composed of lines of growth crossed by two spiral ridges equidistant from the suture and each other; the anterior margin of the whorls at the suture is angulate, gradually becomes prominent and finally functions as a third spiral ridge; all these ridges are closely, minutely beaded with the interspaces nearly smooth; on the last whorl there is a small beaded thread close behind the posterior spiral; base flattish or even somewhat excavated and nearly smooth; aperture defective, the sulcus of the outer lip rounded, deepest near the posterior spiral ridge. Length 19, maximum diameter 45 mm.

Tampa silex beds at Ballast Point, Tampa Bay, Florida, one specimen. U. S. Nat. Mus. No. 165118.

This is doubtless a young shell, but it differs from the young of any of the species yet known from this horizon.

This species is represented only by one poor specimen, of which, however, the genus is sufficiently recognizable. It was thought best to put its occurrence on record and not await better material, which it is to be hoped may eventually not be lacking.

Family ASSIMINIIDAE.

Genus ASSIMINEA Leach.

Assiminca (Leach Ms.) FLEMING, Hist. British Anim., p. 275, 1828. Type, *A. grayana* Jeffreys.

? *Asscmania* KNIGHT, Journ. Conch. (Leeds), vol. 9, p. 296, 1900.

ASSIMINEA ALDRA, new species.

Plate 5, fig. 9.

Shell minute, of about 5 moderately rounded whorls with a distinct suture; spire tapering evenly to a somewhat blunt apex; surface smooth; last whorl more than half the length of the shell; aperture rounded ovate, peristome moderately thickened not reflected, a well marked layer of callus on the body; umbilical region imperforate. Height 2, maximum diameter 1 mm.

Tampa silex beds, at Ballast Point, Tampa Bay, Florida. One specimen, E. J. Post, U. S. Nat. Mus. No. 166106.

This is perhaps the oldest member of the genus which is reported from the Pliocene or Pleistocene only, as far as I can ascertain.

Family RISSOIDAE.

Genus RISSOINA Orbigny.

Rissoina ORBIGNY, Voy. Amer. Mer., 1840, p. 395. Type, *R. inca* Orbigny.

RISSOINA SUPRALAEVIGATA, new species.

Plate 13, fig. 1.

Shell small, smooth, subacute, with about 7 flattish whorls separated by a feebly defined suture; nuclear whorl defective, the remainder gradually increasing; last whorl rounded on the base, with a thick pillar lip; outer lip protractively arcuate, markedly receding toward the suture, slightly thickened; body with no perceptible callus in the specimen. Length 5.5 mm., maximum diameter 2 mm.

Tampa silex beds at Ballast Point, Tampa Bay, Florida.

Type-specimen from the Post collection, U. S. Nat. Mus. No. 165125.

Family XENOPHORIDAE.

Genus XENOPHORA Fischer de Waldheim.

Xenophora FISCHER DE WALDHEIM, Tab. Syn. Zoogn., p. 113, 1808.

XENOPHORA CONCHYLIPHORA Born.

Plate 15, figs. 1, 3.

Trochus conchyliophorus BORN, Mus. Caes. Vind., index, p. 333, 1778.*Xenophora laevigata* FISCHER DE WALDHEIM, Tab. Syn. Zoogn., p. 113, 1808.? *Trochus leprosus* MORTON, Syn. Org. Rem., p. 46, pl. 15, fig. 6, 1834.*Phorus reclusus* CONRAD, Proc. Acad. Nat. Sci., vol. 7, p. 262, 1855; Wailes' Geol. Miss., p. 289, pl. 17, figs. 6a, 6b, 1854.*Onustus reclusus* CONRAD, Amer. Journ. Conch., vol. 1, p. 33, 1865.*Xenophora agglutinans* DE GREGORIO, Mon. Eoc. Ala., p. 144, 1890, not of Lamarck.*Xenophora reclusa* DE GREGORIO, Mon. Eoc. Ala., p. 144.*Xenophora humilis* DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 182, figs. 10, 10a, 1890, not of Conrad.*Xenophora conchyliophora* DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 360, 1892.

In the "Ripley" Cretaceous of Alabama, at Prairie Bluff, Morton and Conrad; the Eocene of Woods Bluff, Alabama, and of Jackson, Mississippi, Aldrich, Wailes, and Conrad; Oligocene of the Tampa silex beds, of the superincumbent limestone at Bartow, and of the Chipola River marl in Florida; the Miocene of Cape Fear River, North Carolina, at Mrs. Purdy's marl bed, C. W. Johnson; Pliocene of the Caloosahatchie River and Shell Creek, Florida; and living in moderate depths of water off the eastern coast of the United States from Cape Hatteras to the Gulf of Mexico, and through the Antilles.

The groups *Xenophora* s. s. and *Tugurium* which are sufficiently distinct in the existing fauna, as we recede in Tertiary time become merged so far as to be indistinguishable.

Family NATICIDAE.

Genus NATICA Scopoli.

Natica (Adanson) SCOPOLI, Intr. Hist. Nat., p. 392, 1777.—BRUGUIÈRE, Encycl. Meth., vol. 1, p. XVI, 1789.—LAMARCK, Prodrôme, p. 77, 1799.—DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 366, 1892.

Cochlis BOLTEN, Mus. Bolten, p. 146, 1798.

Nacca RISSO, Hist. Nat. Eur. Merid., vol. 4, 1826, p. 148. *Nerita fulminea* (Linnaeus) Gmelin.

Subgenus CRYPTONATICA Dall.

Cryptonatica DALL, Trans. Wagner Inst., vol. 3, pt. 2, pp. 362, 366, 1892.Type, *N. clausa* Broderip and Sowerby.

This group has the shelly operculum smooth and without grooves, and the umbilicus completely filled with a smooth callus.

the county bridge, Calhoun County, Florida; and of Sapote, Costa Rica (Gabb). U. S. Nat. Mus. No. 165130.

Genus AMPULLINA (Lamarck) Bowdich.

Ampullina (Lamarck) BOWDICH, Elem. Conch., vol. 1, p. 31, 1822. Type, pl. 9, fig. 2 (*Ampullaria depressa* Lamarck, not Sowerby; not *Ampullina* Blainville, 1825).—DALL, U. S. Geol. Survey, Prof. paper No. 59, p. 89, 1909.

The name of this genus appears in its French form (*Ampulline*) in the works of Defrance and other writers, as proposed by Lamarck, some years before it appeared in Latin as above indicated. The type as figured by Bowdich is one of the heavier species with a distinct umbilicus, probably *A. depressa* Lamarck, and not the form in which the umbilicus is closed over by a mass of callus, as imagined by several respectable authors.

The group contains both umbilicated and imperforate species and has been considerably divided. *Lupia* Conrad is an elevated form of the imperforate type and differs from *Amauropsis* Mörch only in having no channel at the suture. The *Natica phasianelloides* of Orbigny is a typical *Lupia*. The full synonymy is given in Professional paper No. 59, above cited. While not using the Latinized form of the name Defrance, in the Dictionnaire des Sciences Naturelles,¹ states that Lamarck had arranged, first in *Ampullaria* and afterwards in a genus which he called "Ampulline," the marine fossils belonging to this group, Defrance gives a list of 14 species. Bowdich, in his work published somewhat later, cites in connection with *Ampullina* part of the remarks of Defrance.

AMPULLINA STREPTOSTOMA Heilprin.

Plate 12, fig. 27.

Natica streptostoma HEILPRIN, Trans. Wagner Inst., vol. 1, p. 112, pl. 16, fig. 51, 1887.

Ampullina streptostoma DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 374, 1892.

Oligocene of Tampa silex beds at Ballast Point and La Penotiere's hammock, Florida, and the white limestone of Jacksonboro, Georgia; Heilprin, Dall, and Whitfield. U. S. Nat. Mus. No. 165131.

This species is related to *A. sigaretina* Lamarck, of the Paris basin Eocene, but has a wider basal callus and more open umbilicus. From *A. fischeri* Dall, of the Chipola beds, it differs by not having the umbilicus closed. The young, however, of these species are practically identical.

¹ Vol. 20, 1821, p. 440.

Genus SINUM Boltcn.

Sinum BOLTEN, Mus. Boltcnianum, 1798, p. 14. Type, *Helix halintoidea* (Linnaeus) Gmelin, Syst. Nat., vol. 6, p. 3663, 1792, *ex parte*.—DALL, U. S. Geol. Surv. Prof. paper No. 59, p. 91, 1909.

Sigaretus LAMARCK, Prodrôme, 1799, p. 77. Same type.

Cryptostoma BLAINVILLE, 1817.

Catinus H. and A. ADAMS, 1853; not of Oken, 1815.

SINUM CHIPOLANUM Dall.

Plate 12, fig. 20; plate 16, fig. 1.

Sigaretus chipolanus DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 379, pl. 17, fig. 7, 1892.

Oligocene of the Tampa silex beds at Ballast Point, also of the Chipola marl, Calhoun County, Florida; Dall. U. S. Nat. Mus. No. 165135.

This species is most nearly related to the *S. declive* Conrad, of the Claibornian Eocene, from which it is separable by its closed umbilicus and the absence of the emargination of the pillar, which is a characteristic of *S. declive*. The Chipola specimens are larger and finer than any yet obtained at Ballast Point.

SINUM IMPERFORATUM, new species.

Plate 5, fig. 8.

Shell small, elevated, solid, of about 5 whorls, of which the nuclear 2½ appear smooth; subsequent whorls sharply densely grooved, the grooves having a tendency to pair, and the interspaces flattened; both grooves and interspaces are minutely zigzagged by the intersection with them of the incremental lines; spire moderately elevated, suture distinct; aperture oblique, the outer lip joining the body above the periphery of the preceding whorls; inner or pillar lip thickened, with a slight depression behind it, but no umbilical chink. Height of shell 13.2, of aperture 11.7, maximum diameter 11 mm.

Tampa silex beds from the vicinity of the Hillsboro river, Florida, collected by E. J. Post. U. S. Nat. Mus. No. 166107.

This species has some resemblance to *S. fragile* Conrad, but is much more solid and the characters of the sculpture and of the umbilical region differ.

Family TURBINIDAE.

Genus TURBO (Linnaeus) Lamarck.

Turbo LINNAEUS, Syst. Nat., ed. 10, p. 761, 1758.—LAMARCK, Prodrôme, p. 74, 1799. Type, *T. marmoratus* Linnaeus.

The original group was very heterogeneous, but by common consent the name has been restricted to shells of the type of *T. marmoratus* Linnaeus, which was Lamarck's monotype in 1799.

TEGULA (OMPHALIUS) EXOLETA Conrad.

Plate 16, figs. 15, 16.

Monodonta exoluta (sic) CONRAD, Proc. Acad. Nat. Sci. Phila., vol. 1, p. 309, 1843 (err. typ. pro *exoleta*).

Monilia exoluta CONRAD, Proc. Acad. Nat. Sci. Phila. for 1862, p. 569, 1863.

Turbo heliciformis HEILPRIN, Trans. Wagner. Inst., vol. 1, p. 113, pl. 16, fig. 55. 1887.

Chlorostoma (*Omphalius*) *exoletum* DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 388, pl. 17, figs. 4, 4a, 1892.

Oligocene of the Tampa silex beds, Ballast Point, and of the lower bed at Alum Bluff, Chattahoochee River, northwest Florida, and Miocene of the Carolinas; Burns. U. S. Nat. Mus. No. 112572.

The *Monodonta kiawahensis* of Tuomey and Holmes should be compared with this species, which does not appear in the Pliocene of the Caloosahatchie, nor in the living fauna of Florida. A variety *limatum*¹ is reported from Alum Bluff and the Chipola marl.

Genus CALLIOSTOMA Swainson.

Calliostoma SWAINSON, Mal. pp. 218, 219, 351, 1840. Type, *Trochus zizyphinus* var. *conuloides* Lamarck.

Zizyphinus GRAY, Syn. Brit. Mus., 1840. (nude name.)

CALLIOSTOMA METRIUM Dall.

Plate 15, fig. 8.

Calliostoma metrium DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 394, pl. 22, fig. 27. 1892.

Oligocene of the Tampa silex beds at Ballast Point, and of the Chipola marl, near the county bridge over the Chipola River, Calhoun County, Florida; Dall. U. S. Nat. Mus. No. 113025.

CALLIOSTOMA TAMPICUM, new species.

Plate 4, fig. 1.

Shell small, with 7 flattened whorls, an inconspicuous suture, and flattish base; the nucleus is smooth and projects perceptibly upward; the subsequent whorls show 5 subequal and equally spaced spiral ridges more or less distinctly beaded; on the last whorl and a half these ridges become reduced to small threadlike proportions, hardly rising above the surface of the whorl, not beaded, and separated by wide interspaces with occasional still smaller intercalary threadlets; the periphery of the whorl is bluntly rounded and produced backward; the base is flattened and spirally sculptured with 10 or 12 obscure spirals which might be regarded as flattened threads separated by narrow striae, the whole more or less obsolescent; (the aper-

¹ Dall, Trans. Wagner Inst., vol. 3, pt. 2, p. 388, 1892.

ture is obscured by matrix and the end of the pillar broken (Height of shell 10.5, maximum diameter of base 10, minimum diameter of base 9 mm.

Tampa silex beds, at Ballast Point, Tampa Bay, Florida. U. S. Nat. Mus. No. 166108.

This shell has, in miniature, some resemblance to *C. grammocum* Dall, of the Chipola beds, but the latter is a much larger species.

Genus MARGARITES Leach.

Margarita LEACH, Thompson's Ann. Philos., vol. 14, p. 202, 1819; no description. Leach, Zool. Misc., vol. 1, p. 107, 1815.

Margarites (Leach Ms.) GRAY, Ann. Mag. Nat. Hist., vol. 20, 1847, p. 268.—LEACH, Moll. Gt. Britain, 1852, pp. 147, 197. Type, *Helicogargarita* Montagu, DALL, U. S. Geol. Survey, Prof. paper, No. 59, p. 1909.

MARGARITES TAMPAËNSIS Dall.

Plate 3, fig. 11.

Margarita tampaënsis DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 406, fig. 5, 1892.

Tampa silex beds at Ballast Point, Tampa Bay, Florida; Dall and Burns. U. S. Nat. Mus. No. 112573.

The fine striation may or may not be present, especially on later whorls.

Family DELPHINULIDAE.

Genus LIOTIA Gray.

Liotia GRAY, Synopsis Brit. Mus., 1840 and 1842, name only; Proc. Soc. London for 1847, p. 145. Type, *Delphinula cancellata* Gray and A. ADAMS, Gen. Rec. Moll., vol. 1, 1854, p. 404.—DALL, Blake (1889), p. 385.

LIOTIA (ARENE) SOLARIELLA Heilprin.

Plate 16, figs. 4, 5.

Delphinula ? solariella HEILPRIN, Trans. Wagner Inst., vol. 1, p. 113, pl. fig. 56, 1887.

Liotia (Arene) solariella DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 17, pl. 17, figs. 1, 1a, 1892.

Tampa silex beds, at Ballast Point, Tampa Bay, Florida; Heilprin, Dall and Burns, U. S. Nat. Mus. 165137.

LIOTIA (ARENE) CORONATA Dall.

Plate 16, figs. 6, 17.

Liotia (Arene) coronata DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 17, pl. 17, figs. 2, 2a, 1892.

Tampa silex beds, Ballast Point, Tampa Bay, Florida; Dall and Burns. U. S. Nat. Mus. No. 112575.

This species seems to be less abundant than the *L. solariella*, only the original specimens have yet come under my observation.

Family HELICINIDAE.

Genus HELICINA Lamarck.

Helicina LAMARCK, Prodrôme, 1799, p. 76 (no species mentioned); Syst. des Anim. s. Vert. 1801, p. 94. Type, *Helicina ncritella* Lamarck after Lister, pl. 62, fig. 59 (Barbados); not of Roissy, Hist. Gen. des Moll., vol. 5, 1806, p. 275, pl. 54, fig. 1 (= *Umbonium* Link).—PREIFFER, Pneumop. Viv., 1852, pp. 338, 362.

This genus was founded by Lamarck on a figure of a snail from Barbados given by Lister as above cited, and an unquestionable member of the genus as generally understood. However, Roissy, in adopting the genus a few years later, made the mistake of figuring a species of *Umbonium* (*Rotella* Lamarck) as an example of Lamarck's genus. This error misled Gray and some others, who probably did not take the trouble to look up the original figure in Lister, into regarding the type of *Helicina* as a marine shell.

HELICINA BALLISTA Dall.

Plate 15, figs. 9, 11.

Helicina ballista DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 3, pl. 1, figs. 2, 2a, 1890.

Tampa silex beds at Ballast Point and in the overlying Tampa limestone with *Orbitolites*; and in rock of the same age at Six-Mile Run, near Orient Station, east of Tampa City; all collectors. U. S. Nat. Mus. No. 111939.

HELICINA BALLISTA var. TAMPAE Dall.

Helicina ballista var. *tampae* DALL, Trans. Wagner Inst., vol. 3, pt. 1, p. 4, 1890.

With the last, and nearly as abundant. U. S. Nat. Mus. No. 111943.

This is similar to the typical form and has the same number of whorls, but is generally smooth and slightly flatter on the spire beside being constantly smaller. If we had it in its original condition, probably there might be specific differences of color which are lost in the fossil state, but as it stands the safer plan seems to be to regard it as a variety of the larger shell with which it is associated.

HELICINA POSTI, new species.

Plate 5, fig. 7.

Shell in form much resembling *H. ballista* var. *tampae*, but larger, proportionately more depressed, with a less thickened peristome, per-

Florida, Dall; and in the equivalent lower bed at Alum Bluff on the Chattahoochee River. Also in the Miocene of Duplin County, North Carolina; Burns. U. S. Nat. Mus. No. 165140.

This appears to be the precursor of the recent *Fissuridea alternata* Say, but does not attain so large a size, judging by the specimens so far collected.

Genus FISSURELLA Bruguière.

Subgenus CREMIDES H. and A. Adams.

FISSURELLA (CREMIDES) CERYX, new species.

Plate 1, figs. 10, 11.

Shell small, thin, subconic, basal outline rounded quadrate, the anterior portion slightly wider; apex within the posterior third of the length; apical opening narrow, centrally slightly widened; sculpture of flattish radial riblets (about three to a millimeter) with subequal interspaces, in most of which there are traces of a single much finer radial thread; concentric sculpture of rather marked incremental lines, which are not close set and which feebly inbricate the riblets in passing over them; base (in the type) slightly arcuate, the ends more produced than the central portions; interior smooth except for a faint, muscular impression, the aperture not showing any callus on the interior margin; basal margin feebly crenulated by the ends of the riblets. Length 9.5 mm., height 4 mm., maximum diameter 7.1 mm.; the posterior margin of the aperture in front of the posterior end of the shell 2 mm.

Tampa silex beds, Ballast Point, Tampa Bay, Florida; one specimen collected by E. J. Post. U. S. Nat. Mus. No. 165109.

Order POLYPLACOPHORA.

Family CHITONIDAE.

Genus ISCHNOCHITON (Gray).

Ischnochiton GRAY, Proc. Zool. Soc. London, 1847, p. 126.—SHUTTLEWORTH, Berner Mitth., 1853, p. 66.—PILSBRY, Man. Conch., vol. 14, p. 86, 1882.—DALL, Trans. Wagner Inst., vol. 3, pt. 2, p. 434, 1892. Type, *Chiton textilis* Gray, South Africa.

ISCHNOCHITON TAMPAËNSIS Dall.

Plate 3, figs. 8a, 8b.

Ischnochiton tampaënsis DALL, Trans. Wagner Inst., vol. 3, pt. 2, pl. 23, fig. 23, 1892.

Tampa silex beds, at Ballast Point, Tampa Bay, Florida; Dall and Crosby. U. S. Nat. Mus. No. 112607.

In the absence of the tail valve and the armature of the girdle this species can not be referred to its particular section of the genus.

LEDA FLEXUOSA Heilprin.

Plate 23, figs. 8, 10.

Leda flexuosa HEILPRIN, Trans. Wagner Inst., vol. 1, p. 119, pl. 16, fig. 66 (two views) 1887.—DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 589, pl. 38, figs. 5, 5a, 1898.

Tampa silex beds at Ballast Point, Tampa Bay, Florida; Heilprin and Dall. U. S. Nat. Mus. No. 165170.

Since the original figures were very obscure, better ones are now provided.

LEDA POSTI, new species.

Plate 21, figs. 6, 9.

Shell small, thin, equivalve, inequilateral, slender, rounded in front, attenuated and bluntly pointed behind; basal profile gently arcuate, anterior dorsal slope slightly convex, posterior slope nearly direct; beaks low, much incurved, opisthocoealous; no distinct lunule, but a narrow impressed space in front; behind the beaks a long narrow escutcheon extending to the end of the valve with the cardinal margins pouting; sculpture of incremental lines more prominent near the beaks and base, nearly obsolete on the middle of the valve; near the base these become sparse and sublamellose in the type-specimen; interior smooth; the muscular scars small, not thickened; hinge with about 20 anterior and 19 posterior V-shaped small teeth separated by a well-marked subtriangular resiliifer, wholly internal and just below the beaks. Length of valve 14 mm., of posterior end 8 mm., height 6.7 mm., maximum diameter 5 mm.

Tampa silex beds Ballast Point, Tampa Bay, Florida. Type-specimen from the Post collection. U. S. Nat. Mus. No. 165171.

Genus YOLDIA Möller.

Yoldia MÖLLER, Index Moll. Groenl., 1842, p. 18. First species, *Yoldia arctica* Gray, as *Nucula*.

Yoldia DALL, Trans. Wagner Inst., vol. 3, pt. 4, pp. 593-4, 1898. Type, *Y. glacialis* Wood.

YOLDIA FRATER Dall.

Plate 4, fig. 5.

Yoldia frater DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 596, pl. 32, fig. 1, 1898.

Oligocene of the Chipola marls in Calhoun and Walton Counties, Florida; and of the Oak Grove sands at Oak Grove, Santa Rosa County, northwest Florida; Dall. U. S. Nat. Mus. No. 165172.

A small *Yoldia* obtained at Ballast Point from the Tampa silex beds appears to be the young of this species.

smooth and rather smaller; length of figured specimen 35, height maximum diameter 20 mm.

Tampa silex beds at Ballast Point, Tampa Bay, Florida; E. J. Post. U. S. Nat. Mus. No. 165175.

Like the other typical *Arks* this species has a marked byssal gape, but being a nestler shows more or less individual variation of form *in situ*.

ARCA PARATINA Dall.

Arca paratina, DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 623, pl. 33, fig. 14, 1898.

Oligocene of the Tampa silex beds at Ballast Point, E. J. Post; the Chipola River marls, near the Calhoun County bridge, and of the lower bed at Alum Bluff, on the Chattahoochee River, Florida, and Burns. U. S. Nat. Mus. No. 165177.

Subgenus BARBATIA (Gray) Adams.

Barbatia GRAY, Syn. Brit. Mus., 1840, nude name; Proc. Zool. Soc. London, for 1847, p. 197.—H. and A. ADAMS, Gen. Rec. Moll., vol. 2, p. 534, 1857. Type, *Arca barbata* Linnaeus.—DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 615, 1898.

Section CALLOARCA Gray.

Calloarca (Gray) H. and A. ADAMS, Gen. Rec. Moll., vol. 2, 1857, p. 535. Sole example, *Arca alternata* Reeve.—DALL, Trans. Wagner Inst., vol. 3, pt. 4, pp. 615, 623, 1898.

BARBATIA (CALLOARCA) MARYLANDICA Conrad.

Plate 4, fig. 3.

Byssarca marylandica CONRAD, Fossils Medial Tert., p. 54, pl. 29, fig. 1, 1840.

Barbatia marylandica CONRAD, Proc. Acad. Nat. Sci. Phila., for 1862, p. 580, 1863.

Barbatia (Calloarca) marylandica DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 623, 1898.

Oligocene of the Tampa silex beds at Ballast Point; of the lower at Alum Bluff, Chattahoochee River; of the Chipola marls, Calhoun County, Florida; and of the marls of Jericho, Cumberland County, New Jersey. Miocene of Plum Point, Calvert Cliffs, and Terrville, Maryland; Willcox, Burns, Dall, and Harris. U. S. Nat. Mus. No. 165176.

This species may possibly occur also in the Jacksonian Eocene of Mississippi.

BARBATIA (CALLOARCA) IRREGULARIS Dall.

Plate 17, fig. 4.

Barbatia (Calloarca) irregularis DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 623, pl. 33, fig. 5, 1898.

Oligocene of the Tampa silex beds at Ballast Point (fragment); Pliocene marls of the Caloosahatchie River, Alligator Creek, and Shell Creek, south Florida; Dall and Burns. U. S. Nat. Mus. No. 148949.

The fragment from Ballast Point collected by Mr. Willcox appears to accord specifically with the typical Pliocene form.

BARBATIA (CALLOARCA) ARCULA Heilprin.

Plate 17, fig. 5.

Arca arcula HEILPRIN, Trans. Wagner Inst., vol. 1, p. 118, pl. 16, fig. 65, 1887.

Barbatia (Calloarca) arcula DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 624, pl. 33, fig. 4. 1898.

Tampa silex beds at Ballast Point, Tampa Bay; Willcox and Post. U. S. Nat. Mus. No. 107718.

Section ACAR (Gray) Adams.

Acar (Gray) H. and A. ADAMS, Gen. Rec. Moll., vol. 2, p. 535, 1857; *Arca donaciformis* Reeve.—DALL, Trans. Wagner Inst., vol. 3, pt. 4, 1898, p. 615.

Daphnoderma MÖRCH, 1853, not of Poli, 1795.

BARBATIA (ACAR) RETICULATA Gmelin.

Arca reticulata GMELIN, Syst. Nat., vol. 6, p. 3311, 1792.—CHEMNITZ, Conch. Cab., vol. 2, p. 193, pl. 54, fig. 540.

Arca squamosa LAMARCK, Anim. s. Vert., vol. 6, p. 35, 1819.

Arca domingensis LAMARCK, Anim. s. Vert., p. 40, 1819.

Arca clathrata LAMARCK, Anim. s. Vert., p. 46, 1819.

? *Arca gradata* BRODERIP and SOWERBY, Zool. Journ., vol. 4, p. 365, 1829.

Arca divaricata SOWERBY, Proc. Zool. Soc., 1833, p. 18.—REEVE, Conch. Ico. *Arca*, pl. 16, fig. 108, 1844.

Barbatia (Acar) reticulata DALL, Trans. Wagner Inst., vol. 3, pt. 4, 629, 1898.

Eocene of the Jacksonian at Moody's branch, Jackson, Mississippi; Oligocene of the Bowden beds, Jamaica, West Indies, the island of Trinidad, at Matura; of the Tampa silex beds at Ballast Point, Tampa Bay, and of the Chipola River marls; Pliocene of the Caloosahatchie River, Florida, and of Limon, Costa Rica; Pleistocene of the Antilles, generally; and living from Cape Hatteras, North Carolina, North Carolina, south to Barbados and the Gulf of Campeche, Mexico. U. S. Nat. Mus. No. 165178.

The fossils are identical with the living shells, and there can be no doubt that the species has existed, with its mutations essential as at present, in the Antillean region since the upper Eocene.

Section FOSSULARCA Cossmann.

Fossularca COSSMANN, Cat. Illustr., 1887, p. 142. Type, *Arca quadrilatera* Lamarck. Eocene of Paris.

BARBATIA (FOSSULARCA) ADAMSI E. A. Smith.

Arca coelata CONRAD, Fossils Medial Tert., p. 61, pl. 32, fig. 2, 1845; not of Reeve, Conch. Icon. *Arca*, 1844.

Arca lactea C. B. ADAMS, Manuscript; not of Linnaeus.

Arca adamsi (Shuttleworth Ms.) SMITH, Journ. Linn. Soc. London, Zool., vol. 20, p. 499, pl. 30, figs. 6, 6a, 1888.—DALL, Bull. Mus. Comp. Zool., vol. 12, p. 243, 1888.

Barbatia (Fossularca) adamsi DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 629, 1898.

Oligocene of the Tampa silex beds at Ballast Point, of the Chipola marls and Oak Grove sands of Florida; of the Bowden beds, Jamaica, West Indies. Miocene of Duplin County, North Carolina. Pliocene of Waccamaw River, South Carolina; of the Caloosahatchee River, Shell Creek, and Alligator Creek, Florida. Living from North Carolina to Brazil, in 5 to 116 fathoms. U. S. Nat. Mus. No. 165179.

Subgenus SCAPHARCA Gray.

Scapharca GRAY, Proc. Zool. Soc. London, 1847, p. 198. Type, *Arca inaequalis* Brugulère.—H. and A. ADAMS, Gen. Rec. Moll., vol. 2, p. 538, 1857.—DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 618, 1898.

SCAPHARCA HYPOMELA Dall.

Plate 17, fig. 7; plate 21, figs. 17, 18.

Scapharca (Scapharca) hypomela DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 637, pl. 33, fig. 1, 1898.

Oligocene of the Tampa silex beds at Ballast Point, of the lower bed at Alum Bluff, Chattahoochee River, and of the Chipola marls, Calhoun County, Florida. U. S. Nat. Mus. Nos. 165180, 165181.

SCAPHARCA LATIDENTATA Dall.

Plate 25, fig. 2.

Scapharca (Scapharca) latidentata DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 638 pl. 32, fig. 15, 1898.

Oligocene of the Tampa silex beds at Ballast Point; of the lower bed at Alum Bluff, Chattahoochee River; of the Chipola marls, Chipola River, Calhoun County, Florida; and probably of the Oak Grove sands, Santa Rosa County, Florida. U. S. Nat. Mus. No. 149010.

The young of *Anadara aresta* Dall look a good deal like this species, but have the beaks more central and prominent and not mesially impressed.

Genus GLYCYMERIS Da Costa.

Glycymeris DA COSTA, Brit. Conch., p. 170, 1778; Mus. Calonnianum, p. 50, 1797. Type, *Arca glycymeris* Linnaeus.

Tuceta BOLTEN, Mus. Boltinianum, p. 172, 1798, ed. 2, p. 120, 1819. First species, *Arca pilosa* Linnaeus.

Arinca+*Arineoderma* POLI, Test. Utr. Sicilliae, vol. 1, p. 32, 1791; vol. 2, p. 254, 1795 (not binomial).

Pectunculus LAMARCK, Prodrôme, p. 87, 1799. Type, *Arca pectunculus* Linnaeus.—LAMY, Journ. de Conchyl., Feb., 1912, p. 84. Not of Huddesford, App. to Lister Conch. Index to Anat. plates, p. 5, pl. 13, fig. 1, 1760.=*Cardium edule* Linnaeus.

Glycymeris DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 607, 1898; Proc. Mal. Soc. London, vol. 10, pt. 3, p. 255, 1912. Not *Glycymeris* Lamarck, 1799 or 1801.

GLYCYMERIS LAMYI, new species.

Plate 20, figs. 11, 13.

Shell small, solid, moderately convex, equivalve, and nearly equilateral; beaks small, low, pointed, median, separated by a narrow diamond-shaped area with about half a dozen ligamentary grooves divaricating from a central imaginary line perpendicular to the beak in each valve; external sculpture of about 20 low, slightly convex, primary radiating riblets, with from one to three smaller intercalary close-set threads in the interspaces; the primary ribs extend over the anterior and middle portions of the shell, but cease near the posterior end, which is sculptured on the posterior area only by threads of the secondary type of which there are about a dozen; these radial ribs are crossed by concentric lines, sometimes rather pronounced, in harmony with the lines of growth and better developed near the margin; profile slightly attenuated toward the beaks and at the lower end of the posterior dorsal area slightly subangular; interior smooth, the margin crenulate as figured; muscular impressions small, distinct; disk smooth; hinge with about 10 teeth on each side of the median line, symmetrically arranged. Height 16.5 mm., breadth 17. mm., diameter 8 mm.

Tampa silex beds Ballast Point, Tampa Bay, Florida.

Type-specimen from the Post collection. U. S. Nat. Mus. No. 165173.

This form is nearest *G. arctata* Conrad of the Vicksburg horizon in which the radial sculpture is strongest on the beaks and the coarse ribs divide later, while in the present species the radials are smaller on the beaks and stronger distally. The Vicksburg species is also generally higher and somewhat shorter.

Family OSTREIDAE.

Genus OSTREA (Linnaeus) Lamarck.

Ostrea LINNAEUS, Syst. Nat., ed. 10, p. 696, 1758.—LAMARCK, Prodrôme, p. 81, 1799. Type. *Ostrea edulis* Linnaeus.

OSTREA SELLAIFORMIS Conrad var. RUGIFERA Dall

Ostrea sellaeformis CONRAD var. *rugifera* DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 678, 1898.

Oligocene of the Tampa silex beds, Ballast Point; of the Chipola marls and the lower bed at Alum Bluff, Chattahoochee River, Florida. U. S. Nat. Mus. No. 114825.

The typical *O. sellaeformis*, as is well known, is Eocene in distribution; the middle Oligocene form is that I have called *rugifera*, but which is not yet represented by any really well-preserved specimens in the material I have seen; the last term of the series in the upper Oligocene, at Oak Grove, Santa Rosa County, Florida, is that to which I have given the name of variety *pauciplicata*.

OSTREA MAURICIENSIS Gabb?

Ostrea mauriciensis GABB, (part) Journ. Acad. Nat. Sci. Phila., ser. 2, p. 376, pl. 67, 1860.

Oligocene of the mixed marls of southern New Jersey, of the layers above the Altamaha grit of Georgia, and of the Tampa silex beds at Ballast Point, Tampa Bay, Florida. U. S. Nat. Mus. No. 153851.

Part of Gabb's *O. mauriciensis* seems to be young *O. georgiana* Conrad; part approaches very closely the *O. virginica* Gmelin; but in nearly all cases the superficial layers of the shell have been destroyed, and the specific identifications must be merely guesswork. Whether there is a really distinct species in the complex remains uncertain.

OSTREA VAUGHANI, new species.

Plate 19, fig. 6.

Shell solid, heavy, with the external sculpture of both valves similar, composed of closely adjacent concentric imbrications or overlapping lamellae corresponding to the incremental lines, with no trace of any radial sculpture; upper valve moderately convex; beak strongly recurved, with a deep wide medial ligamentary sulcus; the inner margins of the valves near the hinge, with a sparse denticulation, especially on the anterior margin. Length 120, width 85, depth of paired valves 60 mm.

Ballast Point, Tampa Bay, either from the silex beds or the limestone immediately above them; E. J. Post. U. S. Nat. Mus. No. 100092.

SPONDYLUS CHIPOLANUS Dall

Plate 19, fig. 1.

Spondylus (bostrychites var. ?) *chipolanus* DALL, Trans. Wagner Inst., pt. 4, p. 758, 1898.

Oligocene of the Tampa silex beds at Ballast Point, Tampa Bay, of the lower beds at Alum Bluff, Chattahoochee River; of the Chipola marls of Calhoun County, near the county bridge over the Chipola River; and of the sands at Oak Grove, Santa Rosa County, Florida. U. S. Nat. Mus. No. 114817.

This species at first suspected from poor material to be a variety of *S. bostrychites*, has no radial striation on the minor ribs, but rather a concentric sculpture, also a greater number of spinose ribs, and more oval and inflated form.

Genus PLICATULA Lamarck.

Plicatula LAMARCK, Syst. An. & Vert., p. 132, 1801. Type, *Plicatula gibbosa* Lamarck An. & Vert., *P. ramosa* Lamarck 1819.—DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 761, 1898.

Harpa PARKINSON, Org. Rem., vol. 3, pl. 12, 1811.—BROOKS, Intr. Conch., p. 83, 1815. Type, *H. parkinsonii* Bronn.

Ostrenomia CONRAD, Proc. Acad. Nat. Sci. Phila., for 1872, p. 216. Type, *O. carolinensis* Conrad.

PLICATULA DENSATA Conrad.

Plicatula densata CONRAD, Proc. Acad. Nat. Sci. Phila., vol. 1, p. 311, 1843. Medial Tert., p. 75, pl. 43, fig. 6, 1845; Proc. Acad. Nat. Sci. Phila., vol. 14, p. 582, 1863.—DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 763, 1898.

Spondylus inornatus WHITFIELD, Miocene Pal. N. J., p. 34, pl. 5, figs. 1, 2, 1895.

Oligocene of the Peninsular limestone of Archer, Florida, and the Nummulitic horizon at Ocala, Florida, Dall and Willcox; of the Tampa silex beds at Ballast Point; the Chipola marls of Calhoun County; of the lower bed at Alum Bluff on the Chattahoochee River, and of the Oak Grove sands, Santa Rosa County, Florida; also of the Bowden beds of Jamaica, West Indies, and the Guallava beds of Costa Rica. Also in the lower Miocene marls of Cumberland County, New Jersey, at Shiloh and Jericho. U. S. N. Mus. No. 165183.

This species is distinguished from the later *P. marginata* Say, by its usually rounder form and more numerous and less prominent plications. Occasional specimens when attached to a flat surface by a considerable area of the attached valve, do not develop plications, and one such served as the type of Whitfield's *Spondylus inornatus*.

MODIOLUS SILICATUS Dall.

Plate 24, fig. 11.

Modiolus silicatus DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 793, pl. 27, fig. 28, 1898.

Modiolus tampaënsis DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 922, by inadvertence.

Tampa silex beds, Ballast Point, Tampa Bay, Florida; Willcox and Dall. U. S. Nat. Mus. No. 154349.

MODIOLUS BLANDUS, new species.

Plate 20, figs. 3, 6, 12.

Shell of moderate size, thin, rounded in front and behind, dorsally subalate, margins entire with hardly any byssal gape; valves inflated, surface smooth except for incremental lines.

Length 44, height 23, maximum diameter 21 mm.

Ballast Point, Tampa Bay, Florida; E. J. Post, probably from the limestone overlying the silex beds. U. S. Nat. Mus., No. 165226.

The specimen is a well preserved internal cast.

Section BRACHYDONTES Swainson.

Brachidontes SWAINSON, Malac., p. 384, 1840. Type, *Modiola sulcata* Lamarck (1819 not 1807).

Brachydontes FISCHER, Man. de Conchyl., p. 968, 1886.—DALL, Bull. U. S. Nat. Mus. No. 37, p. 138, 1889.

Semimodiola COSSMANN, Cat. Illustr., vol. 2, p. 158, 1887. Type, *Modiola hastata* Deshayes.

Semimodiola COSSMANN, Cat. Illustr., vol. 2, p. 158, 1887. Type, *Modiola sulcata* Lamarck, not Risso.

Brachydontes DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 791, 1898.

MODIOLUS (BRACHYDONTES) GRAMMATUS Dall.

Plate 26, fig. 4.

Modiolus (Brachydontes) grammatus DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 794, pl. 30, fig. 2, 1898.

Tampa silex beds at Ballast Point, Tampa Bay, Florida, Dall, U. S. Nat. Mus. No. 165184. A variety *curtulus* Dall, was obtained by Burns from the lower bed at Alum Bluff, Chattahoochee River, Florida.

The variety is stouter than the type-species, more triangular, with coarser and more nodulous ribs and stronger crenulations of the margin.

LITHOPHAGA ANTILLARUM Orbigny.

Lithodomus antillarum ORBIGNY, Moll. Cubana, vol. 2, p. 332, pl. 28, figs. 12, 13, 1847 (French edition; Spanish edition, with atlas, 1845).

Modiola corrugata PHILIPPI, Abbild. und Besch., vol. 2, p. 147, pl. 1, fig. 1, 1846.

Lithodomus corrugatus REEVE, Conch. Iconica, vol. 10, pl. 1, fig. 1, 1858.

Lithophagus dactylus MÖSCH, Cat. Yoldi, vol. 2, p. 55, 1853; not of Sowerby, 1824.

Lithophagus caribaeus DALL, Bull. U. S. Nat. Mus., No. 37, p. 38, No. 81, 1889; not of Philippi.

Lithophaga antillarum DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 799, 1898.

Tampa silex beds, Ballast Point, Tampa Bay, Florida; Willcox and Dall. Living from Florida southward, throughout the Antilles, usually as a borer in corals. U. S. Nat. Mus. No. 154861.

The casts of the borings due to this and the other species are rather common in the silex beds, often being hollow and the cavity partly filled with water, in which state they are sold as curios to tourists.

LITHOPHAGA NIGRA Orbigny.

Lithodomus niger ORBIGNY, Moll. Cubana, vol. 2, p. 331, pl. 28, figs. 10, 11, 1847 (French edition; Spanish edition, 1845).

Modiola caribaea PHILIPPI, Abbild. und Besch., vol. 3, p. 20, pl. 2, fig. 5, 1847; Zeitschr. f. Malak. for 1847, p. 116.

Modiola antillarum PHILIPPI (not Orbigny), Abbild. und Besch., vol. 3, p. 20, pl. 2, fig. 4, 1847; Zeitschr. f. Malak. for 1847, p. 116 (young shell).

Nytilus lithophagus GÜNTHER, S. Car. Cat., p. 22, 1848, not of Linnaeus.

Lithophagus niger MÖSCH, Cat. Yoldi, vol. 2, p. 56, 1853.

Lithodomus antillarum REEVE, Conch. Iconica, vol. 10, pl. 2, fig. 7, 1858.

Lithophaga niger DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 799, 1898.

Tampa silex beds at Ballast Point, Tampa Bay, Florida. Living from South Carolina southward through the West Indies and to Rio Janeiro, Brazil. U. S. Nat. Mus. No. 154360.

LITHOPHAGA NUDA Dall.

Plate 24, fig. 4; plate 28, fig. 7.

Lithophaga nuda DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 800, pl. 11, fig. 7, pl. 35, fig. 27, 1898.

Tampa silex beds at Ballast Point, where it and the casts of the burrows are very common, but rarely well preserved. U. S. Nat. Mus. Nos. 165187, 165189.

Few of the specimens retain the thin outer coating of the valves, but those that do are easily recognized by their smooth surface and distinguished from the species of *Diberus* by the cylindrical form and absence of the calcareous mantle outside of the shell. The burrow cast is represented by figure 4.

Family PLEUROPHORIDAE.

Genus CORALLIOPHAGA Blainville.

Coralliophaga BLAINVILLE, Man. Malac., p. 560, 1825.

Lithophagella (Gray Ms. ?) *vide* H. and A. ADAMS, Gen. Rec. Moll., vol. 2, p. 439, 1857.

Cypricardia (sp.) LAMARCK, Anim. s. Vert., vol. 6, pt. 1, p. 28, No. 4, 1819.

Coralliophaga DALL, Trans. Wagner Inst., vol. 3, pt. 6, pp. 1497, 1498, Oct., 1903.

CORALLIOPHAGA ELEGANTULA Dall.

Plate 23, figs. 11, 13.

Coralliophaga elegantula DALL, Trans. Wagner Inst., vol. 3, pt. 6, p. 1499, pl. 25, figs. 2, 2a, 1903.

Coralliophaga elegans DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 920, pl. 25, figs. 2, 2a, 1898; not Deshayes, 1824.

Oligocene of the Tampa silex beds at Ballast Point, Tampa Bay, and of the Chipola River marls, Calhoun County, Florida; Dall and Crosby. U. S. Nat. Mus. No. 155710.

This can be discriminated from any other American species by its surface—smooth, except for faint incremental lines.

Family CRASSATELLITIDAE.

Genus CRASSATELLITES Krüger.

Crassatellites KRÜGER, Arch. neuest. Entd. Urwelt, vol. 2, p. 466, 1823. Type, *Crassatella gibbosula* Lamarck.—DALL, Trans. Wagner Inst., vol. 3, pt. 6, p. 1468, 1903.

Crassatella (sp.) LAMARCK, Syst. Anim. s. Vert., p. 119, 1801, not of Lamarck, Prodrome, p. 85, 1799.

Section SCAMBULA Conrad.

Scambula CONRAD, Amer. Journ. Conch., vol. 5, p. 51, 1869 (part). Type, *S. perplana* Conrad, Amer. Journ. Conch., vol. 5, p. 48, pl. 9, figs. 7, 8, 1869.—DALL, Trans. Wagner Inst., vol. 3, pt. 6, p. 1467, 1903.

CRASSATELLITES DEFORMIS Heilprin.

Plate 22, figs. 6, 7.

Crassatella deformis HEILPRIN, Trans. Wagner Inst., vol. 1, p. 117, pl. 16, fig. 63, 1887.

Crassatellites (*Scambula*) *deformis* DALL, Trans. Wagner Inst., vol. 3, pt. 6, p. 1471, 1903.

Tampa silex beds at Ballast Point, Tampa Bay, Florida; Willcox, Heilprin, Post, and Dall. U. S. Nat. Mus. No. 165191.

ATLANTIC MUSEUM.

1892.

Lucina, new species.

plump, equivalve, slightly small, low, closely adjacent, be excavated with a deeply go for the size of the shell; hardly depressed lanceolate shaped, bordered below by a the posterior margin by a rounded, posterior subtruncate nearer the posterior end of (specimen eleven) rather by narrower intervals, the r; concentric sculpture of ded on the beaks and near the valves, overriding the with a strongly crenulate f shell 5 mm., beaks behind diameter 2.5 mm.

Chipola Bay, Florida.

U. S. Nat. Mus. No.

number.

though round

Lucina De Conchyl., 1887, p. 1143. Type, *Lucina sulcata* Trans. Wagner Inst., vol. 3, pt. 6, p. 1361, 1903.
Lucina (CAMILUCINA) RECURRENS Dall

Plate 24, fig. 3.

My

Lucina RECURRENS DALL, Trans. Wagner Inst., vol. 3, pt. 6, p. 1361, 1903.

Oyr.
Ort.
Myi

at Miami; of the lower bed at Alu of the Chipola marl on the Chipola; and of the Bowden beds, Jamaica, No. 114685.

Lucina LUCINISCA Dall

Ent

U. S. Nat. Mus. No. 114685

conception of the genus would probably have been synonymous with *Cardium* Linnaeus in its broad sense, it seems better to ignore this instance of its use.

Section DISCORDIUM Dall.

Discordium DALL, Trans. Wagner Inst., vol. 3, pt. 5, pp. 1074, 1097, 1900.
Type. *Cardium robustum* Schander (*C. magnum* Born not Linnaeus).

CARDIUM (CERASTODERMA) PHLYCTAENA Dall

Plate 25, fig. 12.

Cardium (*Cerastoderma*) *phlyctaena* DALL, Trans. Wagner Inst., vol. 3, pt. 5, p. 1097, pl. 43, fig. 12, 1900.

Tampa silex beds at Ballast Point, Tampa Bay, Florida. Wilcox and Dall. U. S. Nat. Mus. No. 165207.

CARDIUM (CERASTODERMA) TAPHRIUM Dall

Plate 19, fig. 3.

? *Cardium* (*Cerastoderma*) *taphrium* DALL, Trans. Wagner Inst., vol. 3, pt. 5, p. 1098, pl. 40, fig. 9, 1900.

Oligocene of the Tampa silex beds ! and of the Oak Grove sands of Oak Grove, Santa Rosa County, Florida. U. S. Nat. Mus. No. 157576.

The species and figure are based on Oak Grove specimens, the pseudomorph from the silex beds being so poorly preserved that identification is doubtful.

Subgenus FRAGUM Bolten.

Fragum BOLTEN, Mus. Boltenianum, ed. 1, p. 189, 1798; ed. 2, p. 131, 1811 (*C. unedo* Linnaeus).—MÖRCH, Yoldi Cat., vol. 2, p. 35, 1853.—DALL, Trans. Wagner Inst., vol. 3, pt. 5, p. 1074, 1900.

Hemicardium SWAINSON, Mal., p. 373, 1840, after Cuvier, Règne Anim., vol. 2, p. 479, 1817, emend.

Bucardium GRAY, Ann. Mag. Nat. Hist., 1853, p. 40; not of Megerle, 1811.

Loxocardium COSSMANN, Cat. Illustr., p. 160, 1887.

Section TRIGONIOCARDIA Dall.

Trigoniocardia DALL, Trans. Wagner Inst., vol. 3, pt. 5, p. 1075, 1900. Type. *Cardium graniferum* Sowerby.

CARDIUM (TRIGONIOCARDIA) ALICULA Dall.

Plate 25, fig. 8.

Cardium (*Trigoniocardia*) *alicula* DALL, Trans. Wagner Inst., vol. 3, pt. 5, p. 1103, pl. 40, fig. 12 (only), 1900.

Oligocene of the Tampa silex beds, Ballast Point, Tampa Bay and of the lower bed at Alum Bluff, Chattahoochee River, Florida. Dall and Burns. U. S. Nat. Mus. No. 165209.

CARDIUM (TRIGONIOCARDIA) BERBERUM, new species.

Cardium (Trigoniocardia) alicula (part) DALL, Trans. Wagner Inst., vol. 3, pt. 5, p. 1103, pl. 48, fig. 5, 1900 (not pl. 40, fig. 12).

Oligocene of Tampa silex beds and of the lower bed at Alum Bluff, Florida, and of the Chipola River marl, Calhoun County, Florida. U. S. Nat. Mus. No. 166113.

When first described it was thought that the Ballast Point specimens of *C. alicula* was worn and that its differences from the Chipola form were due to erosion. The recovery of a well-preserved valve from the silex beds, together with specimens of the Chipola form, has enabled a more exact comparison to be made, which shows that the form from the Chipola marl beds is distinct. It may be recognized by its more narrow form and by the very conspicuous denticulation of the margin of the truncated end of the valves. *C. alicula*, so far as known, is confined to the Ballast Point horizon, but the present species is present also at Chipola. The Ballast Point specimens are U. S. Nat. Mus. No. 166113.

Family VENERIIDAE.**Genus DOSINIA Scopoli. .**

Dosinia SCOPOLI, Intr. ad Hist. Nat., p. 399, 1777. Type, *Le dosin* Adanson, = *Dosinia africana* Hanley.

Arthemis OKEN, Lehrb. der Naturg., p. 229, 1815. *Venus exoleta* Linnaeus.

Artemis CONRAD, For. Tert. Form., p. 20, 1832.

Arctœ RISSO, Eur. Mérid., vol. 4, p. 361, 1826. *Venus exoleta* Linnaeus.

Exoleta BROWN, Ill. Conch. Gt. Brit., pl. 20, figs. 2, 3, 1827. *Venus exoleta* Linnaeus.

Cerana GISTEL, Naturg. Thierr., p. 8, 1848.

Amphithaea LEACH, Syn. Brit. Moll., p. 312, 1852.

Dosinia DESHAYES, Cat. Brit. Mus., p. 5, 1853.—DALL, Trans. Wagner Inst., vol. 3, pt. 6, p. 1226, 1903; not *Dosinia* Gray, 1838.

Section DOSINIDIA Dall.

Dosinidia DALL, Proc. U. S. Nat. Mus., vol. 26, No. 1312, p. 347, 1902. Type, *Venus concentrica* Born; Trans. Wagner Inst., vol. 3, pt. 6, p. 1229, 1909.

DOSINIA (DOSINIDIA) CHIPOLANA Dall

Plate 24, fig. 10.

Dosinia (Dosinidia) chipolana DALL, Trans. Wagner Inst., vol. 3, pt. 6, p. 1229, pl. 54, fig. 4, 1903.

Oligocene of the Tampa silex beds at Ballast Point, Tampa Bay; and of the Chipola marl, near the county bridge, Chipola River, Calhoun County, Florida. U. S. Nat. Mus. No. 214408.

179. 1876. Type. *Venus*
Inst., vol. 3, pt. 6, p. 1251.

S. p. 197. Apr. 1909; U. S.
120. new name for *Chionella*

de Paris, vol. 1, p. 105, 1886. Type.
Swainson. Malac., p. 335.

ACCUMINATA Dall.

Plate 24, figs. 2.

Trans. Wagner Inst., vol. 3, pt. 6, p. 1255.

de la. Ballast Point, Tampa Bay;
Bluff, Chattahoochee River, Florida
188313.

Conrad, of the Miocene, but is
more acute behind.

CARDIA A. Adams.

Mag. Nat. Hist., ser. 3, vol. 13, p. 307, 1864

Stat., vol. 9, p. 58, 1852; not *Caryatis* Hul

Comp. Zool., vol. 12, p. 275, Sept. 1880

Illustr. bassin de Paris, vol. 1, p. 98, Oct. 1880

S. Nat. Mus., vol. 26, No. 1312, p. 353, 1902
& pt. 6, p. 1259, 1903.

AGRIOPOMA Dall.

S. Nat. Mus., vol. 24, p. 509, 1902. Type, *Cythere*
Trans. Wagner Inst., vol. 3, pt. 6, p. 1259, 1903.

AGRIOPOMA) *SINCERA* Dall.

Plate 25, fig. 7.

SINCERA DALL. Trans. Wagner Inst., vol. 3, pt.
12 1903.

Tampa siliceous beds at Ballast Point, Tampa Bay
Bluff, Chattahoochee River; and of th

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Antigona Sch

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Antigona

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vol. 3. 1

22, 1853.

Artena Con

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Brit. Mus., vol

Artenia T

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FLORIDANA Conrad

figs. 4. 5.

Sci., ser. 2. vol.

Trans. Wagner Inst.,

Trans. Wagner Inst.,

Cyt

beds at Ballast I

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No. 165214.

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bed at the same time

been recently identifi

ely, with *A. floridana*

ferences.

GENUS (Linnaeus) Lamar

Syst. Nat., ed. 10, p. 685, 1758

Brit. Conch., p. 184, 177

at. Index, p. 5, expl. pl.

1758.

p. 84, 1799. Sole example

Wagner Inst., vol. 3, pt. 6, 1

Essai, pp. 45, 135, 1817, s

Boston Soc. Nat. Hist.,

GENUS HALIDONA Dall.

figs. 3, 5.

Wagner Inst., vol. 3, p

1907, 1903.

siliceous beds at Ballast I

Key in Tampa Bay, Florid

U. S. Nat. Mus. No. 165217.

~~FAMILY~~ SEMELIDAE

GEORGE SEWELL Schumacher.

Shoreline Fossils: Bivalve, 2.5 in. long. Type, *Tellina reticulata* Speng.

THE 1970S: A NEW PERSPECTIVE

~~Supplement~~ **TALENT** **LINE** & **VERT.** vol 3, p 489, 1818.—**BOWDICH**

~~Base~~ ~~Color~~ ~~no~~ ~~2~~ ~~1~~ ~~1~~ ~~2~~ ~~fig~~ ~~13~~ ~~132~~ Type, *Tellina variegata*

***Tenax purpurascens* Gamelin.**

Lychnis viscaria Sachs. Bot. Fenn. & Lig. vol. 23, p. 122, 1901; *S. phlo-ovoides*

Abstract

SMITHS SANDWICH, NEW SPECIES

Page 2 of 2

Small shell, from the center behind the middle of the shell an-
invasiveness: lunule deep and narrow: escutcheon confined to the
back valve, very narrow, longer than the lunule; ends evenly rounded
subequal, passing smoothly into the arcuate base; sculpture of nar-
row, sharp low vertical concentric lamellae with much wider inter-
spaces which are more or less concentrically striated, especially
toward the ends of the shell: the lamellae are more crowded toward
the anterior end: radial sinus rounded, high; not approaching the
radial line below: hinge normal, the chondrophore small. Length
1.5 height 1.5 diameter .5 mm.

Tampa Bay, Fla. at Ballast Point, Tampa Bay, Florida. U. S.
Nat. Mus. No. 10000

SEMOLA SILICATA D-M

Page 2 of 1.

Journal of the Royal Microscopical Society, vol. 3, pt. 5, p. 987, pl. 38, fig. 3411

Tampa River Bridge at Ballast Point. Tampa Bay, Florida. Dal
U. S. Nat. Mon. No. 100201.

The specimen figured is one of the first found. Better preserved individuals were subsequently obtained, and show a sharper sculpture.

Family CORBULIDÆ.

Genus CORBULA (Bruguière) Lamarck.

Corbula ~~REGERIENS~~ Emery. Mém. pl. 230, 1797 (not in Table 1792).—

LAMARCK. *Prodrome*. p. 89. 1799.—DALL. *Trans. Wagner Inst.*, vol. 3, pt. 4. p. 836, 1893. Type, *C. gallica* Lamarck. Not *Corbula* Bolten, 1798 (= *Asaphis* Modeer).

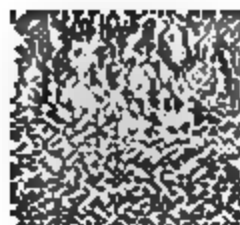
Bicorbula FISCHER, *Man. de Conchyl.*, p. 1125, 1887.

Section CUNEOCORBULA Cossmann.

Cuneocorbula COSSMANN, Cat. Coq. Fos. bassin de Paris, vol. 1, p. 37, 1886. Type, *C. triangulata* Deshayes.—DALL, Trans. Wagner Inst., vol. 3, pt. 4, p. 838, 1898.

PLATE 26.

- FIG. 1. *Antigona tarquinia* Dall, left valve, lon. 49 mm., p. 147.
2. The same, from above.
3. *Venus halidona* Dall, right valve, lon. 37 mm., p. 150.
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6. *Venericardia serricosta* Hellprin, interior of left valve, lon. 32 mm., p. 132.
7. *Lithophaga nuda* Dall, from above specimen defective behind, lon. 56 mm., p. 129. (See also pl. 24, fig. 4.)



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SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
Bulletin 91

REPORT ON THE TURTON COLLECTION OF SOUTH
AFRICAN MARINE MOLLUSKS, WITH ADDITIONAL
NOTES ON OTHER SOUTH AFRICAN SHELLS
CONTAINED IN THE UNITED STATES
NATIONAL MUSEUM

BY

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WASHINGTON
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1913

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The scientific publications of the United States National Museum consist of two series, the *Proceedings* and the *Bulletins*.

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RICHARD RATHBUN,
Secretary, Smithsonian Institution,
of the United States National Museum.
29, 1915.

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In looking over the collection as a whole one is struck by the prevalence of red coloration, which seems explained by the fact that the red algae form the dominant element in the marine life of the region.

It was deemed advisable to render this report more interesting to students by considering with it all the mollusks contained in the United States National Museum from the *South African* collection, and while this is not a large series, there are nevertheless some very important shells, namely, Gould's "types," collected by William Stimpson, the zoologist of the North Pacific expedition, at Cape Good Hope, Simons Bay, and False Bay, from September 12 to November 9, 1853. These types are now deposited in the United States National Museum for the first time, and a little fuller diagnosis is given of them.

At the end of this paper I have given what I believe to be a list of all the species that have been reported from South Africa. In the United States National Museum no species of the same name are in the collection from that region. In this list the type-locality from which the specimens were originally described is cited. It is hoped that this list will serve as a stimulus to future collecting, and that it may induce to revise the late those authors who have wrongly identified material from that region, their decisions, which will doubtless result in the expunging of erroneous records from a list which appears heavily laden with them.

This report would be incomplete did I not acknowledge my obligations to Dr. William H. Dall, honorary curator of the Division of Mollusks, for much assistance in its preparation, particularly in the treatment of the part dealing with the bivalves.

I wish also to state that the line drawings of plates 1-10 were made by Evelyn Grosbeck Mitchell, while the photographs were made by Mr. T. W. Smillie, of the National Museum, and retouched by E. Bennett Decker. The collection numbers in parentheses are those given by Colonel Turton.

SYSTEMATIC LIST.

Phylum MOLLUSCA.

Class CEPHALOPODA.

Order DIBRANCHIATA.

Family ARGONAUTIDAE.

Genus ARGONAUTA Linnaeus.

ARGONAUTA ARGO Linnaeus.

(Cat. No. 227802, U.S.N.M., one specimen from Port Natal (Cat. No. 897)).

Family SPIRULIDAE.

Genus SPIRULA Lamarck.

SPIRULA PERONII Lamarck.

Cat. No. 186647, U.S.N.M., one specimen from Port Alfred (Coll. No. 1).

Class GASTROPODA.

Order PTEROPODA.

Family CAVOLINIDAE.

Genus CAVOLINA Abildgaard.

CAVOLINA LONGIROSTRIS Lesueur.

Cat. No. 227808, U.S.N.M., two specimens from Port Alfred (Coll. No. 903).

CAVOLINA GLOBULOSA Rang.

Cat. No. 250588, U.S.N.M., contains one specimen of this species from Port Alfred (Coll. No. 1461).

Genus STYLIOLA (Lesueur) Gray.

STYLIOLA AFRICANA, new species.

Plate 34, fig. 4.

Shell similar to *Styliola virgula* Rang, but in every way stouter and considerably less curved.

The type and another specimen, Cat. No. 249794, U.S.N.M., come from Port Alfred (Coll. No. 1066). The type measures: Length, 4 mm.; diameter, 1.2 mm.

Order TECTIBRANCHIATA.

Family ACTEONIDAE.

Genus ACTEON Montfort.

ACTEON ALBUS Sewerby.

Cat. No. 186658, U.S.N.M., one specimen from Port Alfred (Coll. No. 13).

Genus BULLINA Ferussac.

BULLINA SCABRA Gmelin.

Two specimens, Cat. Nos. 249798 and 250582, both from Port Alfred, are in the collection of the United States National Museum (Coll. Nos. 1070 and 1455).

Genus VOLVULA A. Adams.

VOLVULA, species?

Cat. No. 250583, U.S.N.M., contains one specimen of this genus, from Port Alfred, which unfortunately has lost part of the lip, which renders positive identification impossible. (Coll. No. 1456).

Family SCAPHANDRIDAE.

Genus CYLICHNA Loven.

CYLICHNA AFRICANA, new species.

Plate 1, fig. 8.

Shell, white, subcylindric, spire deeply sunken, giving the apex a perforate appearance. The body whorl is somewhat contracted in the middle, rendering the outline of the sides concave. The entire surface is marked by slender, subequally spaced axial riblets, which give it a finely fluted appearance. Aperture long, narrow posteriorly, roundly expanded anteriorly; outer lip parallel to the parietal wall except at the expanded basal fourth of the shell. The outer lip projects considerably above the summit of each preceding turn, marking the highest elevation of each turn. The parietal wall of the last turn is covered with a thin callus, which is continued posteriorly to form the parietal wall of that part of the aperture which projects above the summit of the preceding turn. The outside of the parietal wall within the perforated top, is marked by the continuations of the riblets. Columella with an inconspicuous oblique twist near the middle, short, slender, finely curved, connected at the base with the parietal callus.

The type and three specimens, Cat. No. 187147, U.S.N.M., were collected at Port Alfred (Coll. No. 694). The type measures: Length, 3.4 mm.; diameter, 1.4 mm.

This species resembles *Cylichna hoernesii* Weinkauff from the Mediterranean. It is, however, a little less contracted posteriorly, has the outer lip extending much higher posteriorly, and lacks the fine striations of the spire as well as the strongly incised spiral lines of the base.

CYLICHNA TUBULOSA Gould.

Plate 3, fig. 5.

Cylichna tubulosa GOULD, Proc. Bost. Soc. Nat. Hist., vol. 7, p. 40, 1859.

Shell cylindric, a very little wider anteriorly than posteriorly, white or creamy yellow. Spire submerged and covered; posterior end slightly concave, the highest portion being in line with the backward continuation of the outer lip. Left outline of the body whorl almost straight, curving gently toward either end. Inner lip quite evenly

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HAMINEA ALFREDENSIS, new species.

Plate 1, fig. 5.

Shell irregularly pear-shaped, thin and translucent, light green
 yellow. The anterior portion of the outer lip projects considerably
 above the spire and stands off quite a distance from the parietal wall
 posteriorly, and very much anteriorly where it becomes quite per-
 forous. The shell has a somewhat pinched appearance at the middle of
 the anterior half, which renders that portion flattened or even slightly
 concave. Base well rounded. Aperture very large; columella very
 strongly curved, reinforced at the edge by a narrow, reflected callus
 which expands and spreads over the interior of the lip at its anterior
 extremity; parietal wall covered by a callus. Entire surface marked
 by fine incremental lines and exceedingly fine, closely spaced spiral
 striations.

The type measures: Length, 12.4 mm.; diameter, 10 mm. If
 another specimen come from Port Alfred, they are entered as (No.
 No. 186656, U.S.N.M. (Coll. No. 10).

The present form differs from *natalensis* Krauss in having the
 posterior half of the spire flattened instead of evenly rounded, which
 gives *alfredensis* a pear-shaped outline while *natalensis* is s-

Three additional lots from the same locality are in the United States National Museum. Cat. No. 227803, 10 specimens from Port Alfred (Coll. No. 898). Cat. No. 227806, three young individuals (Coll. No. 901). Cat. No. 250581, a very young individual (Coll. No. 1454).

Family RINGICULIDAE.

Genus RINGICULA Deshayes.

RINGICULA TURTONI, new species.

Plate 1, fig. 4.

Shell subovate, polished, white. The nucleus consists of a single turn, which has the same outline as the succeeding whorls but lacks their sculpture, being smooth and shining. Post-nuclear turns greatly inflated, separated by strongly marked sutures and ornamented by deeply incised spiral grooves, of which four appear on the spire of each whorl in the type. In addition to these spiral grooves, the whorls are marked at irregular intervals by moderately strong lines of growth, between which there are many microscopic, axial, wavy lines. Periphery and base of the last whorl well rounded, marked by the same vertical sculpture as the spire and at least three spiral grooves, the anterior half being covered by a thick callus. Aperture auriculate, strongly channeled anteriorly; outer lip very much thickened, provided with a low denticle on the middle of the inner edge; columella very stout, covered by a heavy callus, which is reflected over the basal part of the shell, armed with two equally strong, oblique folds, the anterior of which is at the anterior edge and the other about halfway between this and the insertion of the columella; parietal wall covered with a very strong callus, which reaches posteriorly over half of the spire of the last turn and forms a strong elongated denticle which apposes the denticle of the outer lip.

The type has six whorls and measures: Length, 4.7 mm.; diameter, 3 mm.

The two additional specimens have three and five spiral grooves on the spire and four and six, respectively, on the base. They were collected at Port Alfred, Cape Colony, and form Cat. No. 187050, U.S.N.M. (Coll. No. 588). Another specimen from the same locality is listed as Cat. No. 250586 U.S.N.M. (Coll. No. 1459).

The nearest relative to this species appears to be *Ringicula coliaris* Gould, the type of which, Cat. No. 1692, U.S.N.M., was collected by William Stimpson at Hakodadi, Japan. This, however, is a much larger species. The type, which has six whorls, measures: Length, 5.3 mm.; diameter, 3.6 mm.

RINGICULA AFRICANA, new species.

Plate 33, fig. 4.

Shell ovate, milk white; spire decidedly elevated. Whorls strongly rounded and feebly shouldered at the summit; the first and second

SIPHONARIA OCULUS Krauss.

Cat. No. 115, U.S.N.M., two specimens collected by William Stimpson on the North Pacific Exploring Expedition at Simons Bay. Cat. No. 272111, U.S.N.M., contains another specimen from South Africa.

Family GADINIIDAE.**Genus GADINIA Gray.****GADINIA COSTATA Krauss.**

Cat. No. 186649, U.S.N.M., two specimens from Port Alfred (Coll. No. 3).

Family AMPHIBOLIDAE.**Genus AMPULLARINA Sowerby.****AMPULLARINA AFRICANA Smith.**

Cat. No. 186650, U.S.N.M., one specimen from Port Alfred (Coll. No. 4).

Order ORTHODONTA.**Family TEREBRIDAE.****Genus TEREBRA Bruguiere.****TEREBRA CAPENSIS Smith.**

Cat. No. 186660, U.S.N.M., three specimens from Port Alfred (Coll. No. 15).

TEREBRA SUSPensa Smith.

Cat. No. 186661, U.S.N.M., contains four specimens from Port Alfred (Coll. No. 16).

TEREBRA DIVERSA Smith.

Cat. No. 18, U.S.N.M., one specimen collected by William Stimpson on the North Pacific Exploring Expedition at False Bay.

TEREBRA APICITINCTA Sowerby?

Cat. No. 187034, U.S.N.M., one worn specimen which appears to belong here, from Port Alfred (Coll. No. 570). Cat. No. 250410, U.S.N.M., contains a fragment from the same place (Coll. No. 1283).

TEREBRA, species?

Cat. No. 250483, U.S.N.M., contains a smooth apex of a very small *Terebra*, from Port Alfred (Coll. No. 1356).

Family CONIDAE.**Genus CONUS Linnaeus.****CONUS, species?**

Cat. No. 250302, U.S.N.M., contains a worn and bleached specimen of a magnificent cone, having three dark bands; one immediately

The following additional specimens have been examined: Cat. No. 97985, U.S.N.M., 3 specimens from the mouth of Fish River. Six additional lots, all collected by Colonel Turton at Port Alfred, are as follows: 4, Cat. No. 227709, U.S.N.M. (Coll. No. 804). 3, Cat. No. 249644, U.S.N.M., (Coll. No. 916). 2, Cat. No. 249654, U.S.N.M. (Coll. No. 926). 1, Cat. No. 250303, U.S.N.M. (Coll. No. 1176). 1, Cat. No. 250311, U.S.N.M. (Coll. No. 1184). 1, Cat. No. 250313, U.S.N.M., (Coll. No. 1186).

CONUS ALFREDENSIS, new species.

Plate 1, fig. 12.

Shell elongate-ovate, with broadly conic, well-elevated spire. Whorls well rounded at their summit, which is marked by a few feebly incised spiral lines. Sutures well impressed. Posterior half of body whorl smooth, anterior half crossed by oblique, low, rounded, spiral lirations. Lip simple. Columella with a twist a little above its anterior extremity. Color pinkish-white, with irregular blotches, flecks, dots, and streaks of pale ochraceous. Inside of outer lip purplish-white.

The two specimens, Cat. No. 186972, U.S.N.M., from Port Alfred may be considered cotypes. One of these has 7 whorls and measures: Length, 35 mm.; diameter, 16 mm. The other has eight turns and measures: Length, 45 mm.; diameter, 20 mm. (Coll. No. 504). Cat. No. 43144, U.S.N.M. contains three young specimens from the Cape of Good Hope.

CONUS CAFFER Krauss.

Seven lots of this species have been examined, all collected by Colonel Turton at Port Alfred. They are as follows:

2, Cat. No. 186665, U.S.N.M. (Coll. No. 20). 4, Cat. No. 227707, U.S.N.M. (Coll. No. 802). 3, Cat. No. 227708, U.S.N.M. (Coll. No. 803). 3, Cat. No. 249647, U.S.N.M. (Coll. No. 919). 2, Cat. No. 249656, U.S.N.M. (Coll. No. 928). 1, Cat. No. 250310, U.S.N.M. (Coll. No. 1183). 1, Cat. No. 250314, U.S.N.M. (Coll. No. 1187).

In addition to these, I have seen four specimens, Cat. No. 98001, U.S.N.M., from the mouth of Fish River, and 1, Cat. No. 43144a, U.S.N.M., from the Cape of Good Hope.

CONUS GUTTATUS Kiener.

I have seen four lots of this species, all from Port Alfred, as follows:

2, Cat. No. 249646, U.S.N.M. (Coll. No. 918). 1, Cat. No. 249658, U.S.N.M. (Coll. No. 930). 1, Cat. No. 250307, U.S.N.M. (Coll. No. 1180). 1, Cat. No. 250312, U.S.N.M. (Coll. No. 1185).

umella. Aperture irregular; outer lip with a broad moderately deep sinus, anterior portion well curved. Columella somewhat sinuous, covered by a strong callus which extends up on the parietal wall.

The type and one other specimen, Cat. No. 186670, U.S.N.M., come from Port Alfred (Coll. No. 25). The type has lost the nucleus and probably the first post-nuclear turn; the seven remaining measure: Length, 26.5 mm.; diameter, 10.0 mm.

CLIONELLA, species?

Cat. No. 250458, U.S.N.M., contains a young specimen of a large species from Port Alfred, which I am unable to identify with any of the named species (Coll. No. 1331).

CLIONELLA SINUATA Bern.

Cat. No. 194, U.S.N.M., contains three specimens of this species obtained by William Stimpson on the North Pacific Exploring Expedition at Simons Bay.

CLIONELLA BORNII Smith.

Cat. No. 186994, U.S.N.M., three specimens from Port Alfred (Coll. No. 526), and Cat. No. 97917*a*, U.S.N.M., one specimen from Cape of Good Hope.

CLIONELLA? PLATYSTOMA Smith.

Cat. No. 186671, U.S.N.M., three specimens from Port Alfred (Coll. No. 26) and Cat. No. 186999, U.S.N.M. (Coll. No. 531) from the same locality.

CLIONELLA, species?

Cat. No. 187000, U.S.N.M., contains the tip of a large shell which we are unable to refer to any of the species listed from South Africa. (Coll. No. 532).

CLIONELLA, species?

Cat. No. 186996, U.S.N.M., three specimens from Port Alfred, which I am unable to refer to any of the species listed from South Africa. They are too poor to be properly diagnosed (Coll. No. 528).

Genus *TURRIS* Humphrey.

TURRIS FULTONI Sowerby.

Cat. No. 186672, U.S.N.M., one specimen from Port Alfred (Coll. No. 28). Cat. No. 249735, U.S.N.M., contains another specimen from the same locality (Coll. No. 1007).

Genus *CLAVATULA* Lamarck.

CLAVATULA TAXUS Kiener.

Cat. No. 186991, U.S.N.M., one specimen from Port Alfred (Coll. No. 533).

CLAVATULA HALIPLEX, new species.

Plate 2, fig. 3.

Shell robust, fusiform. Whorls sloping from the summit and the periphery to a depressed line midway between the sutures. The portion posterior to the median line is smooth excepting the strongly retractive lines of growth and spiral striations. The portion anterior to it is marked by distant, low, broad, feebly developed axial ribs, which appear as nodules above the sulcus. On this part the incremental lines are decidedly protractive. Sutures well marked. Posterior portion of base well rounded, anterior part produced rendering the left outline of the whorl concave, marked by feeble extensions of the ribs which disappear shortly after passing over the periphery. Entire surface of spire and base marked by very fine, closely spaced wavy spiral striations. Aperture of irregular outline; posterior angle acute; sinus moderately deep, in the middle between the periphery and summit; columella stout, somewhat sinuous and twisted, covered by a thin callus, which also extends over the parietal wall. Color uniformly cream yellow. In some of the young specimens the space between the sulcus and summit and tip of base are white, the rest light brown.

The type and one other individual, Cat. No. 186992, U.S.N.M., come from Port Alfred (Coll. No. 524). The type has lost its early whorls, the seven remaining measure: Length, 29.5 mm.; diameter, 11.6 mm. Cat. No. 186997, U.S.N.M., contains three young individuals from the same locality (Coll. No. 529).

CLAVATULA HALISTREPTA, new species.

Plate 2, fig. 5.

Shell fusiform. Whorls marked by a narrow, obscurely nodulous spiral keel at the summit, which is followed by a depressed spiral sulcus that equals the keel in width, the two comprising the posterior two-fifths of the whorls between the sutures. Anterior three-fifths marked by strong, broad, low, rounded, slightly protractive axial ribs, which are strongest at their junction with the sulcus, beyond which they scarcely extend. The type has lost the early whorls; upon the first of those remaining there are 10 and upon the rest, 12 ribs. Intercostal spaces about one-half as wide as the ribs. On account of the closely appressed summits, the sutures are poorly defined. Base of the last whorl moderately long, marked by the continuations of the ribs, which gradually weaken in strength as they pass forward. Entire surface of the spire and base marked by lines of growth and numerous, closely crowded, fine, wavy, spiral striations. Posterior angle of aperture acute, sinus below the keel at the summit; columella sigmoid, covered by a thin callus which also extends over

below the appressed summit, otherwise well rounded, marked by strong, narrow, somewhat sinuous, almost vertical axial ribs, of which 12 occur upon all the turns. Intercostal spaces almost three times as wide as the ribs, crossed by 18 equal and almost equally spaced, strongly incised, spiral lines between the sutures. Periphery of the last whorl well rounded. Base attenuated, marked by the continuations of the axial ribs on the posterior half, and about 12 incised spirals, which equal those of the spire in strength and spacing. Aperture irregular, outer lip slightly reflected at the posterior angle to form a shallow notch, the rest decidedly inbent; columella somewhat sigmoid, covered by a thin callus which extends up on the venter wall.

The type and one other specimen, Cat. No. 186688, U.S.N.M., were collected at Port Alfred (Coll. No. 46). It has lost the first nuclear whorl, the six remaining measure: Length, 6.6 mm.; diameter, 1.2 mm.

MANGILIA PONSONBYI Sowerby.

Cat. No. 186685, U.S.N.M., three specimens from Port Alfred (Coll. No. 41).

MANGILIA, species?

Cat. No. 250468, U.S.N.M., contains a young specimen from Port Alfred, which appears to be different from any of the species recorded from South Africa, but is too poor to serve as a basis for description (Coll. No. 1341).

MANGILIA SIREN Smith.

Cat. No. 186691, U.S.N.M., contains a specimen from Port Alfred (Coll. No. 50). This was described as *Glyphostoma siren* Smith, but I believe it should range with *Mangilia*.

Genus CYTHARA Schumacher.

CYTHARA ALFREDENSIS Smith.

The United States National Museum has five lots of this species from Port Alfred. They are: Cat. No. 186689, eight specimens (Coll. No. 47). Cat. No. 227759, six specimens (Coll. No. 854). Cat. No. 227760, six specimens (Coll. No. 855). Cat. No. 252110, five specimens (Coll. No. 1603); and Cat. No. 252111, five specimens (Coll. No. 1604).

In addition to these, I have seen 44 of (Coll. No. 1603) and 45 of (Coll. No. 1604), which have been returned to Col. Turton.

CYTHARA IMA, new species.

Plate 3, fig. 1.

Shell white. Nuclear whorls two, smooth. Postnuclear whorls moderately rounded, with closely appressed summits marked by weak, depressed, rather broad, slightly protractive axial ribs, of

which 10 occur upon the first three whorls, 12 upon the fourth and penultimate. One of the ribs is decidedly thicker, forming a strong varix. This feature is common to all of our specimens. Intercostal spaces about twice as wide as the ribs and very shallow. In addition to the axial sculpture the entire surface of spire and base is marked by equal and almost equally spaced, closely placed, wavy, incised, spiral lines, of which about 24 occur between the sutures on the penultimate turn and about 30 upon the base of the last whorl. Sutures ill-defined. Aperture with the posterior angle acute; outer lip thick within, sharp at edge, sinus scarcely indicated a little distance anterior to the summit; columella almost straight, covered by a thin callus, which extends up on the parietal wall, forming a tubercle near the posterior angle.

The type, Cat. No. 117, U.S.N.M., was collected by William Stimpson on the North Pacific Exploring Expedition at Simons Bay. It has eight whorls and measures: Length, 8.1 mm.; diameter, 3.5 mm. Cat. No. 186687, U.S.N.M., contains three additional specimens from Port Alfred (Coll. No. 45).

Genus DAPHNELLA Hinds.

DAPHNELLA ? SULCATA Sowerby.

Cat. No. 186690, U.S.N.M., one specimen from Port Alfred (Coll. No. 48).

DAPHNELLA ALFREDENSIS, new species.

Plate 8, fig. 3.

Shell spindle shaped, milk white, semitranslucent. Nuclear whorls decollated; post-nuclear whorls well rounded, appressed at the summit, marked by moderately strong, protractively curved, sinuous, axial ribs, of which 12 occur upon the first, 14 upon the second and third, and 18 upon the penultimate turn. These ribs are about as wide as the spaces which separate them. Intercostal spaces shallow, crossed by slender, equal and equally spaced, spiral threads, of which 6 occur upon the first, 7 upon the second, 12 upon the third, and 15 upon the last turn between the sutures. The appressed portion of the whorls appears to be free from spiral sculpture. Sutures feebly marked; periphery of the last whorl well rounded; base rather long; the posterior half well rounded and the anterior half somewhat concaved, marked by the feeble continuations of the axial ribs and spiral threads which equal those of the spire in strength and spacing. Aperture oval, strongly channeled anteriorly, posterior angle acute; outer lip thin, showing the external sculpture within, inner lip almost evenly concaved; parietal wall glazed with a thin callus.

The type, Cat. No. 227753, U.S.N.M., comes from Port Alfred (Coll. No. 48). It has five post-nuclear whorls, and measures: Length 5.0 mm., diameter, 4.5 mm.

Genus **DONOVANIA** Bucquoy, Dautzenberg, and Dollfus.

DONOVANIA STIMPSONI, new species.

Plate 3, fig. 3.

Shell brown. (Nuclear whorls decollated.) Post-nuclear whorls well rounded with appressed summits. Axial sculpture reduced to mere feeble indication of axial ribs. Spirally the whorls are marked by equal and almost equally spaced, incised lines, of which six occur between the sutures of the second and third, seven upon the fourth and the penultimate turn. Upon the base, which is but slightly attenuated, there are 10 incised spirals, those on the anterior extremity being a little closer spaced than the rest. Sutures well impressed. Aperture with the posterior angle acute; outer lip thin, sinus scarcely indicated a little distance below the summit; columella short, straight, covered by a thin callus which extends up on the parietal wall.

The type, Cat. No. 132, U.S.N.M., was collected by William Stimpson on the North Pacific Exploring Expedition at False Bay. It has six whorls and measures: Length, 5.4 mm.; diameter, 2.1 mm.

Family CANCELLARIIDAE.

Genus **CANCELLARIA** Lamarck.

CANCELLARIA FOVEOLATA Sowerby.

Cat. No. 98016, U.S.N.M., one specimen from Peddie Coast, South Africa. Cat. No. 186701, U.S.N.M., three specimens from Port Alfred (Coll. No. 60).

CANCELLARIA SEMIDISJUNCTA Sowerby.

Cat. No. 186700, U.S.N.M., two specimens from Port Alfred (Coll. No. 59).

This was described by Sowerby¹ as having been obtained by Cum-
ing from sandy mud at a depth of 25 fathoms at Cagayan, Mindanao,
Philippine Islands.

The figures given correspond so well with the specimen above listed, and the fact that we did not secure this species in the Philippines during the *Albatross* expedition, makes me wonder if the above citation of locality may not be erroneous.

CANCELLARIA DALLI, new species.

Plate 4, fig. 2.

Shell irregularly oval, horn-yellow variegated with rusty spots. (Nuclear whorls decollated.) Post-nuclear whorls inflated, strongly rounded with broad tabulated summits, marked by numerous, slender,

¹ Proc. Zool. Soc. London, p. 137, 1848.

threads, retractive, axial riblets in
 frictions are of varying strength. To
 the shoulder and its junction with the
 sharp tubercles. Two other spirals, on
 a little posterior to the middle between
 the periphery, are of equal strength
 their juncture with the riblets. The
 marked by nine fine frictions, while to
 the strong suprmedian friction is near
 thread followed by a weak one, which
 and three slender threads. The spi
 median and peripheral cords is mark
 frictions, which in turn are separated
 riphery rendered slightly angulated to
 whorl with a deep, moderately broad
 the umbilical margin and the peripher
 equal and equally spaced frictions w
 the spire in strength. These frictions
 separated by finer ones, two of whi
 between them. Umbilicus marked b
 slender, crowded, equally developed, r
 angulated pear-shaped; outer lip an
 flected, almost straight, provided with

The type, Cat. No. 17074, U.S.N.M.
 and measures: Length, 18 mm.; diam
 of aperture, 11 mm.; greatest diameter of aperture, 8 mm.; width of
 shoulder immediately behind the aperture, 2 mm. The type comes
 from the Cape of Good Hope.

Family OLIVIDAE.

Genus EBURNA Lamarck.

EBURNA PAPILLARIS Sowerby.

Cat. No. 227773, U.S.N.M., one specimen from Port Alfred (Coll.
 No. 888).

Genus ANCILLA Lamarck.

ANCILLA OBTUSA Swainson.

Cat. No. 227771, U.S.N.M., one specimen from Port Alfred (Coll.
 No. 889).

ANCILLA DECIPIENS Sowerby.

Cat. No. 103022, U.S.N.M., contains one specimen from Kowie, ob-
 tained from Sowerby and Fulton.

ANCILLA REEVEI Smith.

Cat. No. 100702, U.S.N.M., six specimens from Port Alfred (C
 No. 891).

ANCILLA ALBOZONATA Smith.

o. 186706, U.S.N.M., four specimens from Port Alfred (Coll.

ANCILLA OBESA Sowerby.

o. 98017, U.S.N.M., contains four specimens from Kowie,
No. 186703, U.S.N.M., six specimens from Port Alfred
(63).

ANCILLA FASCIATA Reeve.

ots of this species are in the collection of the United States
Museum, all from Port Alfred. They are: Cat. No. 186704,
imens (Coll. No. 64). Cat. No. 249741, four specimens (Coll.
). Cat. No. 249742, three specimens (Coll. No. 1014).
249743, two specimens (Coll. No. 1015).

ANCILLA MARMORATA Reeve.

o. 186707, U.S.N.M., one specimen from Port Alfred (Coll.

ANCILLA PURA Sowerby.

o. 187016, U.S.N.M., one specimen from Port Alfred (Coll.

ANCILLA BULLOIDES Reeve.

o. 187015, U.S.N.M., four specimens from Port Alfred (Coll.

ANCILLA OSCULATA Sowerby.

o. 187014, U.S.N.M., four specimens from Port Alfred (Coll.

ANCILLA, species?

o. 250441, U.S.N.M., contains an exceedingly young speci-
i Port Alfred (Coll. No. 1314).

Genus SYLVANOCOCHLEA Sowerby.**SYLVANOCOCHLEA ANCILLA** Sowerby.

o. 227772, U.S.N.M., one specimen from Port Alfred (Coll.

SYLVANOCOCHLEA, species?

o. 250440, U.S.N.M., contains a badly worn specimen of this
om Port Alfred, which is much broader and less elevated
foregoing species; (Coll. No. 1313).

Family MARGINELLIDAE.**Genus MARGINELLA** Lamarck.**MARGINELLA PYRUM** Gronovius.

lots of this species all from Port Alfred, are in the collection
United States National Museum. Cat. No. 186980, three
s (Coll. No. 512). Cat. No. 186983, two specimens (Coll.
; and two specimens, Cat. No. 249666 (Coll. No. 938).

MARGINELLA, species?

A young specimen, Cat. No. 250326, U.S.N.M., from Port Alfred (Coll. No. 1199), of a more or less uniform pearl gray ground color, with an interrupted band of spots on the middle and spotting on the spire, which we are unable to arrange with any of the described forms.

MARGINELLA MUNDA Smith.

Cat. No. 186726, U.S.N.M., two from Port Alfred (Coll. No. 85).

MARGINELLA ZONATA Kienner.

There are three color phases in the material before us, typical *zonata* with the broad belt of brownish orange of which Cat. No. 186715, U.S.N.M., contains three specimens from Port Alfred (Coll. No. 74) and Cat. No. 227710, eight specimens from the same locality (Coll. No. 805). We have also seen 92 specimens of this in Colonel Turton's collection (Coll. No. 1600), from the same place. Then, a form in which the markings are reversed—namely, a white belt with the tip and base brownish orange. Of this, Cat. No. 186715a, U.S.N.M., contains three specimens from Port Alfred (Coll. No. 74) and Cat. No. 227712, eight specimens from the same locality (Coll. No. 807). Of this, I have also seen 66 specimens in Colonel Turton's collection (Coll. No. 1602). Lastly, a phase in which the brownish orange is restricted to a very narrow subsutural band. Of this, Cat. No. 186724, U.S.N.M., contains three specimens from Port Alfred (Coll. No. 83), and Cat. No. 227711, U.S.N.M., eight specimens from the same source (Coll. No. 806). Ninety-three more were examined in Colonel Turton's collection from the same place (Coll. No. 1601).

MARGINELLA BILINEATA Krauss.

Cat. No. 127, U.S.N.M., one specimen collected by William Stimpson at Simons Bay on the North Pacific Exploring Expedition (Cat. No. 186989, U.S.N.M., three from Port Alfred (Coll. No. 521).

MARGINELLA CAPENSIS Krauss.

Cat. No. 149, U.S.N.M., five specimens collected by William Stimpson at Simons Bay, on the North Pacific Exploring Expedition (Cat. No. 17305, U.S.N.M., three specimens from Cape of Good Hope (Cat. No. 31661, U.S.N.M., four from the same locality. Cat. No. 272146, U.S.N.M., five specimens from the Cape of Good Hope.

MARGINELLA PUELLA Gould.

Plate 1, fig. 1.

Marginella puella GOULD, Proc. Bost. Soc. Nat. Hist., vol. 7, p. 385, 1860.

Shell yellowish-white, polished, spire moderately elevated, broad conic. Left outline evenly rounded. Inner lip well rounded, slightly concaved at the region of the folds, of which there are four, which

appear equal and equally spaced, the anterior one forming the anterior limit of the columella. Outer lip slightly pinched in and drawn forward a little posterior to the middle. Aperture increasing steadily in width from the posterior angle anteriorly.

The type, Cat. No. 149, U.S.N.M., collected by William Stimpson on the North Pacific Exploring Expedition at Simons Bay, measures: Length, 10 mm.; diameter, 4.6 mm.

MARGINELLA NEGLECTA Sewerby.

Plate 1, fig. 7.

Four lots of this species are in the collection of the United States National Museum. Cat. No. 24100*b*, one specimen from Simons Bay, Cape of Good Hope. Three additional lots are in the United States National Museum, from Port Alfred. One, Cat. No. 250333 (Coll. No. 1206). Two specimens, Cat. No. 250332 (Coll. No. 1205), and one specimen, Cat. No. 186714*a* (Coll. No. 73).

MARGINELLA TURTONI, new species.

Plate 1, fig. 3.

Shell vitreous, translucent, pale yellow with a narrow, pale orange brown band forming a girdle about the middle of the shell. Spire completely covered by the posterior edge of the outer lip, which forms the highest point in all the turns. Left margin of the last whorl slightly rounded in the middle, tapering gently toward the base, rounding abruptly toward the summit. Right margin straight in the middle, curving a little more gently toward the spire than the base. Aperture narrow, extending to the middle of the spire; outer lip moderately strong, slightly inbent in the middle; parietal wall glazed with a thin callus, provided with four, equal and equally sloping, oblique folds on the columella, the anterior of which coincides with the basal margin of the columella.

The type and three specimens, Cat. No. 186718, U.S.N.M., come from Port Alfred (Coll. No. 77). The type measures: Length, 8.5 mm.; diameter, 4.0 mm.

MARGINELLA CLEO, new species.

Plate 1, fig. 6.

Shell elongate-ovate, semitranslucent, vitreous, bluish white. Spire short, broadly conic, whorls not separated by distinct sutures. Left margin of the shell gently rounded; aperture narrow; outer lip inbent in the middle; parietal wall covered by a thin callus; columella provided with four oblique folds, of which the anterior, which bounds the basal edge, is the strongest.

~~was from~~ the same place (Coll. No. 943).

MARGINELLA DIFFERENS Smith.

~~20~~ U.S.N.M., three specimens from Port A

MARGINELLA, species?

Cat. No. 250321, U.S.N.M., contains a young white individual, of moderate size, broad outline, and quadruplicate columella, which we are unable to refer to any of the known species. Port Alfred (Coll. No. 1194).

MARGINELLA ALFREDENSIS, new species.

Plate 1, fig. 2; plate 10, fig. 4.

Shell elongate-ovate, bluish white, semitranslucent. The whorls are so arranged as to overlap partly at the summit, which gives the summit a broadly, evenly rounded aspect. The left margin of the shell is well rounded. The outer lip is flattened in the middle, curving gently toward the summit above this, and a little more abruptly basally. Aperture narrow, lunate, a little wider basally than anteriorly; outer lip thickened at the edge; inner lip appressed to the body whorl, with a thin callus, the basal portion of which terminates in a slender fasciole. The inner lip is armed with eight subequally spaced folds which diminish in size from the first, which equals the basal fasciole in strength, to the last.

The type and three specimens of this species, Cat. No. 186727, U.S.N.M., come from Port Alfred (Coll. No. 86). The type has four and one-half whorls and measures: Length, 2.5 mm.; diameter, 1.7 mm. Eight additional lots of this species, all from Port Alfred, are in the collection of the United States National Museum. Cat. No. 186990, six specimens (Coll. No. 522); Cat. No. 250338, three specimens (Coll. No. 1211); Cat. No. 250340, one specimen (Coll. No. 1213); Cat. No. 250341, 11 specimens (Coll. No. 1214); Cat. No. 250339, one specimen (Coll. No. 1212); Cat. No. 250337, one specimen (Coll. No. 1210); Cat. No. 250344, one specimen (Coll. No. 1217); Cat. No. 250342, 12 specimens (Coll. No. 1215).

MARGINELLA ALGOENSIS Smth.

Five lots of this species are in the collection of the United States National Museum, all from Port Alfred. Cat. No. 186722, four specimens (Coll. No. 81). Cat. No. 249665, three specimens (Coll. No. 937); Cat. No. 249664, six specimens (Coll. No. 936); Cat. No. 250335, two specimens (Coll. No. 1208); Cat. No. 250336, one specimen (Coll. No. 1209).

MARGINELLA ALMO, new species.

Plate 21, fig. 1.

Shell ovate, semitranslucent, milk white. Spire short, broadly, roundedly conic. Suture slightly impressed. Surface marked with exceedingly fine lines of growth only. Aperture very long, widening somewhat anteriorly; outer lip thickened at the edge and very finely denticulated on the inner margin, the denticulations extending

Family MITRIDAE.

Genus MITRA Martyn.

MITRA BATHYRAPHE Sowerby.

Cat. No. 186736, U.S.N.M., from Port Alfred (Coll. No. 95).

MITRA CANALICULATA Sowerby.

No. 186734, U.S.N.M., three, from Port Alfred (Coll. No. 93).

No. 272158, U.S.N.M., two from Kowie, South Africa.

MITRA CAPENSIS Dunker.

No. 186733, U.S.N.M., five, from Port Alfred (Coll. No. 92).

No. 272159, U.S.N.M., two from Kowie, South Africa.

MITRA HELENA, new species.

Small, wax-yellow, with two bands of white, the first of which is a little more than the anterior half between the sutures, the second one, which is about half as wide, occupies the middle of the base. Nuclear whorls decollated. Postnuclear whorls decollated at the summit, marked by very strong, slightly retractive, axial ribs, of which 16 occur upon the first of the remaining turns, 20 upon the second, and 16 upon the rest. In addition to the axial ribs, the whorls are crossed by strong spiral cords, of which five occur upon the sutures of the first three and seven upon the fourth and fifth. The spaces inclosed between the axial ribs and spiral cords are narrow on the posterior half and deep slits on the anterior half between the sutures. Base rendered decidedly sigmoid on the left by the twisting of the anterior portion; marked by the continuation of the axial ribs which extend to the tip of the columella, and by spiral cords, of which the 6 posterior to the columella are like those on the spire, while the first 2 on the columella are broader and more rounded, the last two on the anterior end weaker. Aperture well impressed. Aperture narrow, channeled anteriorly; angle acute; outer lip marked by 12, slender, spiral lirae; columella provided with four oblique folds, which are regular in size from the posterior to the anterior; they also are more oblique in the same order.

The type and another specimen, Cat. No. 272156, U.S.N.M., come from South Africa. The type has 6 whorls remaining and measures: height, 15 mm.; diameter, 6.6 mm. These specimens came to the United States National Museum, labelled "*Mitra daedala*, Reeve," in a collection purchased from Mr. John B. Henderson, in a collection purchased from Mr. John B. Henderson and Fulton. *Mitra daedala* of Reeve is a Philippine species, and we have from the islands; it is much larger than the present

Cat. No. 272155, U.S.N.M., two from Kowie, South Africa.

MITRA LATRUNCULARIA Reeve.

Cat. No. 98011, U.S.N.M., six specimens from Albany, South Africa.
Cat. No. 186730, U.S.N.M., one from Port Alfred (Coll. No. 89).

MITRA CARIFA, new species.

Shell rather large
corals that form the
which are yellow.
narrowly, roundly &
four strong, broad, 1

re marked by spiral lirations. The axial sculpture consists of retractive threads, which are best developed in the grooves between the spiral cords. Suture slightly channeled. Periphery weakly differentiated. Base rather long, marked by 18 low, rounded, spiral cords, which become more distantly spaced, elevated, and narrower anteriorly. These cords are crossed by fine spiral lirations. The axial threads are continued on the venter. A varix is apparent a little behind the aperture. Aperture white, narrowly ovate, channeled anteriorly, posterior angle outer lip reflected, provided with 14 strong denticles; inner lip weakly developed, reflected over the base with the edge free; prothorax with five strong, oblique folds and three weaker ones between the anterior four. These weaker folds join the posterior strong fold at their outer edge. The strong folds decrease in strength gradually from the posterior anteriorly. Parietal wall glazed by a thin layer of nacre.

The type and another specimen, Cat. No. 272154, U.S.N.M., came to the United States National Museum in a donation from Mr. John Johnson, in a collection purchased by him from Sowerby and labelled: "*Mitra limbifera* Lamarck, from South Africa," and the pages of this paper were going through press. I am therefore able to include a figure of it. It differs from *limbifera* by being much more strongly sculptured than that species, also in the shape of the columellar plaits. The type has eight whorls, and measurements: Length, 29.4 mm.; diameter, 12.4 mm.

MITRA MERULA Sowerby.

No. 186732, U.S.N.M., four specimens from Port Alfred (Coll.

MITRA SIMPLEX Reeve.

No. 31901, U.S.N.M., one specimen from Cape of Good Hope.

No. 13925, U.S.N.M., another from the same place. Cat. No.

No. 13925, U.S.N.M., five from Albany, South Africa.

No. 272157, U.S.N.M., an additional specimen from South Africa.

MITRA, species?

No. 250345, U.S.N.M., contains two badly worn specimens of an unnamed, small, short, stout, brown species, from Port Alfred, which I am unable to refer to any of the known species (Coll. No. 1218).

MITRA PATULA Reeve.

No. 186731, U.S.N.M., eight specimens from Port Alfred (Coll.

MITRA PICTA Reeve.

No. 186729, U.S.N.M., three specimens from Port Alfred (Coll.

Cat. No. 186975, U.S.N.M., two from Port Alfred (Coll.

No. 272153, two from South Africa.

LATIRUS BAIRSTOWI Sowerby.

Cat. No. 186740, U.S.N.M., one specimen from Port Alfred (Coll. No. 99).

Family **FUSIDAE**.Genus **FUSINUS** Rafinesque.**FUSINUS OCELLIFERUS** Bern.

Cat. No. 98014, U.S.N.M., two specimens from Albany; Cat. No. 186741, U.S.N.M., one from Port Alfred (Coll. No. 100).

FUSINUS CINGULATUS Smith.

Cat. No. 186742, U.S.N.M., two specimens from Port Alfred (Coll. No. 101).

FUSINUS RUBROLINEATUS Sowerby.

Cat. No. 163018 U.S.N.M., one specimen from 90 fathoms, off Cape St. Blaize.

Family **BUCCINIDAE**.Genus **COMINELLA** Gray.**COMINELLA TIGRINA** Klener.

Cat. No. 16990, U.S.N.M., two specimens collected by Archer at Cape of Good Hope. Cat. No. 186745, U.S.N.M., three from Port Alfred (Coll. No. 104). Cat. No. 272134, U.S.N.M., three from the Cape of Good Hope.

COMINELLA BISERIALIS Kuster.

Cat. No. 36726, U.S.N.M., six from Cape of Good Hope. Cat. No. 43053, U.S.N.M., two from the same locality.

COMINELLA PORCATA Gmelin.

Cat. No. 90, U.S.N.M., one collected by William Stimpson on the North Pacific Exploring Expedition at Simons Bay. Cat. No. 179, U.S.N.M., one from the same source. Cat. No. 36729, U.S.N.M., one from Cape of Good Hope. Cat. No. 87127, U.S.N.M., two from Cape of Good Hope collected by W. Legrande. Cat. No. 186746, U.S.N.M., one from Port Alfred (Coll. No. 105).

COMINELLA PORCATA MULTILIRATA, new subspecies.

Plate 4, fig. 6.

Shell a little more robust than typical *porcata* in outline, marked by numerous closely spaced spiral threads. Inside of outer lip evenly, closely, finely lirate.

The type, Cat. No. 16986, U.S.N.M., comes from Cape of Good Hope and measures: Length, 47.5 mm.; diameter, 28.3 mm.

Genus *EUTHRIA* Gray.

EUTHRIA PONSONBYI Sowerby.

No. 187018, U.S.N.M., two specimens from Port Alfred (Coll. No. 109).

EUTHRIA PUSCOTINCTA Sowerby.

No. 186753, U.S.N.M., four specimens from Port Alfred (Coll. No. 109).

EUTHRIA TURTONI, new species.

Plate 3, fig. 6.

Shell fusiform, varying in ground color from lavender to orange or light brown. The shoulder usually is dark brown, while the rest is finely dotted with the same color. Extreme apex of nucleus decollated, the first turn remaining is depressed and smooth. Postnuclear whorls appressed at the summit, strongly, slopingly shouldered. The shoulder, occupying the posterior half of the space between the sutures, marked by about fifteen unequally developed and unequally spaced, coarse, spiral striations. Anterior half of whorls between the sutures ornamented with feebly expressed, low, broad riblets, which are at the anterior edge of the shoulder, where they appear as a series. Of these, 17 occur upon the last turn. Rostrum anterior half of base finely, evenly, spirally lirate, the lirations ending at the insertion of the columella. Posterior angle of columella sigmoid.

No. 187020, U.S.N.M., came from Port Alfred (Coll. No. 109), six whorls, and measures: Length, 25 mm.; diameter, 10 mm.

No. 186750, U.S.N.M., contains three additional specimens from same locality (Coll. No. 109).

Family COLUBRARIIDAE.

Genus *COLUBRARIA* Schumacher.

COLUBRARIA ALFREDENSIS, new species.

Plate 4, fig. 5.

Shell white, banded and lined with rust brown. A series of dark brown streaks extend from the summit down on the whorls. The streaks are about one-half as wide as the spaces separating them. A spiral line of interrupted dark brown dots covers the whorls a little posterior to the sutures, while a series of dark brown dots covers the anterior half between the sutures and the middle of the base. In addition to these there are others less strongly defined, all of varying degrees of intensity. Nuclear whorls decollated. Postnuclear whorls rounded, appressed at the summit and slightly decollated at the sutures, marked by low, poorly defined, and irregu-

Genus :

A. Adams.

EUTHYRIS

specimens from Port Alfred

Cat. No. 187018, U.S.N.M. (Coll. No. 552).

U.S.N.M., six from the same

U.S.N.M., one specimen from

EUTHYRIS

Cat. No. 186753, U.S.N.M. (Coll. No. 112).

A. Dunker.

specimens collected by William

Exploring Expedition at Simons Bay.

from Port Alfred (Coll. No. 119).

from the same place (Coll. No. 1011),

U.S.N.M. from the same locality (Coll.

Shell fusiform, even light brown is lightly dotted; the first whorls appressed, shoulder, occipital is marked by punctate, sutures on terminate, slight tubercle and post-aperture being depressed.

The aperture is No. 55. 11.5 mm. specimen

EXTENSION, species?

specimen too poor to be specifically named. Hope.

PYRAMIDALIS A. Adams.

contains three specimens of this species

EXTENSION, species?

young individual collected by William Exploring Expedition at Simons Bay.

A. GRAUSSIANA Dunker.

from Cape of Good Hope. Cat. No. 64381, labelled Africa. Cat. No. 97996, U.S.N.M., 186760, U.S.N.M., three from Port No. 272142, U.S.N.M., five specimens No. 272120, U.S.N.M., one specimen

ESMOULEA Gray.

A. RETUSA Lamarck.

from Algoa Bay. Cat. No. 97990.

Cat. No. 75567, U.S.N.M., three from

186762, U.S.N.M., four from Port

Cat. No. 18173, U.S.N.M., from

ABBREVIATA Gmelin.

U.S.N.M. one from Port Alfred (Coll. No. 122).

Shell series the p wide dash a broad and a decide shade whorls constr

BULLIA ALFREDENSIS, new species.

Plate 3, fig. 2.

Shell elongate-conic, cream yellow marked with a rust brown band which extends over a little more than the anterior half between the sutures. This band is not of uniform purity but consists of a series of dark and lighter elements which give the whorls the false appearance of having brown ribs. (Nuclear whorls worn.) Post-nuclear whorls rounded, narrowly, tabulatedly shouldered at the summit, marked by 10 incised spiral striations of which the posterior six are about equally strong and occupy the posterior third of the whorls between the sutures. These are much finer and closer spaced than the other four which divide the remaining space between the sutures into subequal sections. Periphery of the last whorl well rounded. Sutures strongly constricted. Base slightly produced, marked like the anterior two-thirds between the sutures, the incised lines being a little closer on the extreme base than they were on the periphery. Aperture suboval, channeled anteriorly; posterior angle not fully obtuse; outer lip thin; columella curved, provided with a strong callus which also extends over the parietal wall.

The type, Cat. No. 187011, U.S.N.M., comes from Port Alfred (Coll. No. 545). It has eight whorls, and measures: Length, 27 mm.; diameter, 12 mm.

Other additional lots from Port Alfred are in the collection of the United States National Museum, as follows: Cat. No. 187012, one specimen (Coll. No. 545); Cat. No. 250445, one specimen (Coll. No. 545); Cat. No. 250446, one specimen (Coll. No. 1008).

BULLIA ALMO, new species.

Plate 35, fig. 4.

Shell elongate-conic. Nuclear whorls a little more than half the height of the post-nuclear whorls. Post-nuclear whorls light orange, with a strong sloping shoulder which extends over the anterior half of the whorls between the sutures, the anterior half forming a decided angle. Surface of the shell marked by slightly retractive axial lines of growth and by spiral lines, the latter are chiefly confined to the sloping shoulder. Three extend anterior to this. The incised spiral lines increase in number from the early whorls to the last, but decrease in size and spacing. About a dozen strong spiral lines, many less strong, occur upon the shoulder of the last whorl. Aperture large, channeled anteriorly. Posterior angle not fully obtuse. Columella sigmoid; parietal wall glazed.

The type, Cat. No. 250447, U.S.N.M., comes from Port Alfred (Coll. No. 545). It has eight post-nuclear whorls, and measures: Length, 27 mm.; diameter, 12 mm.

BULLIA CALLOSA Weed.

o. 97999, U.S.N.M., three specimens from Albany. Cat. No. 97999, U.S.N.M., one from Port Alfred (Coll. No. 124).

BULLIA, species?

o. 250447, U.S.N.M., contains the tip of an exceedingly young individual, from Port Alfred, which we are unable to connect with any of the known forms (Coll. No. 1320).

BULLIA NATALENSIS Krauss.

o. 118184, U.S.N.M., one specimen collected by McGuire in Africa.

BULLIA PURA Melvill.

o. 186771, U.S.N.M., six from Port Alfred (Coll. No. 132).
o. 187010, U.S.N.M., six from the same locality (Coll. No. 132).
o. 187013, U.S.N.M., one from the same place (Coll. No. 132).

BULLIA DILUTA Krauss.

o. 186770, U.S.N.M., two specimens from Port Alfred (Coll. No. 272133, U.S.N.M., four from Port Elizabeth).

BULLIA, species?

o. 250448, U.S.N.M., contains a young specimen from Port Alfred of white color, the early whorls of which are exceedingly different from any of the described forms I know, but which may serve for a type of a new species. (Coll. No. 1321.)

BULLIA DIGITALIS Meuschen.

o. 178, U.S.N.M., two collected by William Stimpson on the Pacific Exploring Expedition at Simons Bay. Cat. No. 98027, U.S.N.M., two from Cape of Good Hope. Cat. No. 98028, U.S.N.M., four from Albany. Cat. No. 186769, U.S.N.M., four from Port Alfred (Coll. No. 130).

BULLIA SEMIFLAMMEA Reeve.

o. 16825, U.S.N.M., three specimens from Cape of Good Hope.

BULLIA RHODOSTOMA Gray.

o. 21798, U.S.N.M., one specimen collected by Dunker at Port Alfred. Cat. No. 98027, U.S.N.M., 15 specimens from Albany. Cat. No. 186768, U.S.N.M., two from Port Alfred (Coll. No. 129).

BULLIA POLITA Lamarck.

o. 131459, U.S.N.M., one specimen from Bird Island, Algoa Bay.

BULLIA, species?

o. 250444, U.S.N.M., contains a species of *Bullia* from Port Alfred belonging to the group of *B. rhodostoma* Sowerby. It is

type, Cat. No. 249744, U.S.N.M., comes from Port Alfred (No. 1016). It has five postnuclear whorls, and measures: length, 6.1 mm.; diameter, 3 mm.

COLUMBELLA (SEMINELLA), species?

No. 250474, U.S.N.M., contains a young specimen of an apparently undescribed *Seminella* from Port Alfred (Coll. No. 1347).

COLUMBELLA (ANACHIS) BECKERI Sowerby.

No. 182029, U.S.N.M., one specimen from Port Alfred (Coll. No. 1347).

COLUMBELLA (ANACHIS) ALGOENSIS Sowerby.

No. 186696, U.S.N.M., one specimen from Port Alfred (Coll. No. 1347).

COLUMBELLA (ANACHIS) KRAUSSI Sowerby.

Columbella kraussi SOWERBY, Proc. Zool. Soc., p. 53, 1844 = *Columbella (Anachis) ulminea* GOULD, Proc. Bost. Soc. Nat. Hist., vol. 7, p. 334, 1860.

No. 130, U.S.N.M., three specimens Gould's cotypes collected from Stimpson on the North Pacific Exploring Expedition at Cape of Good Hope; and Cat. No. 186698, U.S.N.M., six specimens from Port Alfred (Coll. No. 57).

COLUMBELLA (ANACHIS) IO, new species.

Plate 37, fig. 4.

Elongate-conic, light brown, variegated with flesh color. Whorls smooth, well rounded. Postnuclear whorls well defined, feebly shouldered at the summit, the first three marked by ill-defined, broad, decidedly retractive axial ribs, the rest excepting lines of growth and irregularly disposed, fine striations. Sutures moderately constricted. Periphery of the shell well rounded. Base rather long, marked by lines of growth and few spiral striations. The columella bears seven lirations which become successively weaker from the insertion to the pit. Aperture moderately large. Posterior angle acute; outer lip thin. Type, Cat. No. 250469, U.S.N.M., comes from Port Alfred (Coll. No. 1344). It has five postnuclear whorls, and measures: Length, 5.5 mm.; diameter, 2.2 mm.

COLUMBELLA (ANACHIS), species?

No. 250471, U.S.N.M., contains a young shell from Port Alfred which we are unable to connect with any of the described species (Coll. No. 1344).

COLUMBELLA (ANACHIS), species?

No. 249746, U.S.N.M., contains a young shell from Port Alfred which we are unable to connect with any of the described species (Coll. No. 1018).

Family MURICIDAE.

Genus MUREX Linnaeus.

MUREX UNCINARIUS Lamarck.

16861, U.S.N.M., one from Cape of Good Hope. Cat. No. 16861, U.S.N.M., three collected by Layard at the same place. Cat. No. 186772, U.S.N.M., three from Albany. Cat. No. 186772, U.S.N.M., Port Alfred (Coll. No. 133), and Cat. No. 252155, U.S.N.M., Africa without specific locality. Cat. No. 272150, U.S.N.M., ten from Algoa Bay. Cat. No. 272151, U.S.N.M., three Cape of Good Hope.

MUREX ALFREDENSIS, new species.

Plate 37, fig. 6.

Small, yellowish white, with a zone of wax yellow, which covers the central half of each whorl, leaving the posterior half of the sutures and the basal tip white. (Nuclear whorls decolored; stnuclear whorls well rounded, ornamented with strong ribs of which ten occur upon all the whorls. These lamellae are recurved, and project at their tips considerably above the shoulder of the whorls. The intercostal spaces are scarcely expressed, they are about three times as wide as the ribs and are crossed by slender and equally spaced spiral threads, of which seven occur on the first, eight upon the second, and ten upon the penultimate whorl between the sutures. In addition to the above-mentioned spiral threads the spire is marked by numerous, very fine axial lines of which there are ten on each whorl; the shoulder crossed by the periphery of the last whorl gently rounded. Base quite produced by the continuations of the axial ribs which extend uninterruptedly to the extreme anterior portion of the base, and are crossed by ten equal and equally spaced, spiral threads, which are those of the spire in strength and spacing. Aperture rounded anteriorly; outer lip reinforced by a very thick callus which is expanded and flattened and is marked by the spiral lines; inner lip strongly curved, reflected over and appressed to the parietal wall covered by a thick callus.

Specimen No. 227763, comes from Port Alfred. It has four whorls, and measures: Length, 6 mm.; diameter, 3 mm. (Pl. 37, fig. 6).

Genus TROPHON Montfort.

TROPHON KOWIENSIS Sewerby.

No. 187032, U.S.N.M., one from Port Alfred (Coll. No. 568). No. 227766, U.S.N.M., two specimens from the same locality (Pl. 37, fig. 7).

thread appears midway between the spiral cords. Periphery of the last whorl well-rounded. Base somewhat produced, marked by seven cords equaling those on the anterior portion of the spire in strength. The four grooves between the cords anterior to the periphery have each a slender spiral thread. Aperture irregularly oval, channeled anteriorly and posteriorly; outer lip thin at the edge, where it is rendered somewhat sinuous by the external sculpture, thick within and armed by a callus, bearing seven denticles, columella stout, slightly curved, and partly reflected over the body whorl.

The type has six whorls and measures: Length, 18.5 mm.; diameter, 10.1 mm. The type and another specimen, Cat. No. 272130, U.S.N.M., were received from Mr. John B. Henderson in a collection recently donated to the United States National Museum, which was purchased from Sowerby and Fulton, and was labelled "*Pentadactylus lividus* Reeve, South Africa." It is not Reeve's species, which comes from the Philippines and which we have in the collection of the National Museum from the type locality. True *lividus* is a much stouter species with different detailed sculpture. The specimens reached me as this paper was passing through press. I was therefore unable to add a figure of it.

Genus THAIS Bolten.

THAIS CAPENSIS Pott.

Cat. No. 186778, U.S.N.M., one from Port Alfred (Coll. No. 139).

THAIS TEXTURATA Smith.

Cat. No. 186779, U.S.N.M., two from Port Alfred (Coll. No. 140).

THAIS CASTANEA Kuster.

Cat. No. 186782, U.S.N.M., two from Port Alfred (Coll. No. 143).

THAIS CATARACTA Chemnitz.

Cat. No. 186781, U.S.N.M., three from Port Alfred (Coll. No. 142).

THAIS SQUAMOSA Lamarck.

Cat. No. 186780, U.S.N.M., one from Port Alfred (Coll. No. 141).

Genus LATIAXIS Swainson.

LATIAXIS ROSACEUS Smith.

Cat. No. 186783, U.S.N.M., two from Port Alfred (Coll. 144).

Family CORALLIOPHILIDAE.

Genus CORALLIOPHILA H. and A. Adams.

CORALLIOPHILA RUBROCOCCINEA Melvill and Stenden.

Cat. No. 186784, U.S.N.M., one specimen from Port Alfred (Coll. No. 145).

Cat. No. 187028, U.S.N.M., one from the same place (Coll. No. 564).

EPITONIUM TENEBROSUM Sowerby.

1836, U.S.N.M., contains two specimens of this species, Alfred (Coll. No. 203). Cat. No. 249716, U.S.N.M., additional specimens from the same locality. (Coll.

EPITONIUM DURBANENSE Smith.

6838, U.S.N.M., two specimens from Port Alfred (Coll.

EPITONIUM LACTEUM Krauss.

5, U.S.N.M., one specimen collected by William Stimpforth Pacific Exploring Expedition, at False Bay, Cape a. Cat. No. 186839, U.S.N.M., three specimens from coll. No. 206).

EPITONIUM AGLAIA, new species.

Plate 17, fig. 4.

ste-conic, white. (Nuclear whorls decollated.) Post-s well rounded; marked by numerous, very retractive ich are about one-half as wide as the spaces that sepa-d an occasional varix. The latter are irregularly dis-the axial ribs, 28 occur upon the first and second of the orls, 30 upon the third, 36 upon the fourth, 40 upon the upon the penultimate turn. In addition to the axial ls are marked by numerous spiral striations, which are rowded at the summit than on the rest of the whorl. hese lations occur between the sutures on the penulti-Sutures strongly constricted. Periphery of the last . by a feeble angulation. Base moderately long, well ned by closely crowded, spiral striations. Aperture ; a thickened peristome; inner lip strongly ted; parietal wall covered with a thick itreme complete.

37, U.S.N.M., comes from Port Alfred ven postnuclear whorls remaining, and ; diameter, 6 mm. Cat. No. 250412, specimen from Port Alfred (Coll. No.

EPITONIUM, species?

.M., contains the tip of a broadly conic s fine axial ribs, and spiral lations in the hfferent from any *Epitonium* known from om Port Alfred (Coll. No. 1284).

Family JANTHINIDAE.

Genus JANTHINA Bolten.

JANTHINA COMMUNIS Lamarck.

Cat. No. 77279, U.S.N.M., contains one specimen from the Cape of Good Hope. Cat. No. 97994, U.S.N.M., five specimens from Albany. In addition to these, the Museum contains three lots from Port Alfred. Cat. No. 249755, three specimens. (Coll. No. 1027.) Cat. No. 250503, one specimen (Coll. No. 1376). Cat. No. 250504, one specimen (Coll. No. 1377).

JANTHINA GLOBOSA Swainson.

Cat. No. 186833, U.S.N.M., contains one specimen from Port Alfred (Coll. No. 200).

JANTHINA TROCHOIDEA Reeve.

Cat. No. 186834, U.S.N.M., two specimens from Port Alfred (Coll. No. 201).

JANTHINA EXIGUA Lamarck.

Cat. No. 186835, U.S.N.M., one specimen from Port Alfred (Coll. No. 202). Cat. No. 272131, U.S.N.M., six specimens from Algoa Bay.

JANTHINA FRAGILIS Lamarck.

Cat. No. 187096, U.S.N.M., one specimen from Port Alfred (Coll. No. 640).

Family EULIMIDAE.

Genus MELANELLA Bowdich.

MELANELLA DILECTA Smith.

Four lots of this species are in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No. 186855, four specimens (Coll. No. 225); Cat. No. 227730, four specimens (Coll. No. 825); Cat. No. 227731, six specimens (Coll. No. 826); Cat. No. 249707, one specimen (Coll. No. 979).

MELANELLA ALGOENSIS Smith.

Cat. No. 249712, U.S.N.M., contains one specimen from Port Alfred (Coll. No. 984).

MELANELLA SIMPLEX Sowerby.

Cat. No. 186857, U.S.N.M., contains one specimen from Port Alfred (Coll. No. 227).

MELANELLA CARIFA, new species.

Plate 20, fig. 7.

Shell small, slender, flexed, semitranslucent, polished, bluish white. Whorls slightly rounded on the curved and slightly concave on the opposite side, appressed at the summit to such an extent that

MELANELLA IOTA, new species.

Plate 19, fig. 2.

exceedingly minute, translucent, bluish white, falcate. The whorls almost flattened, appressed at the summit, separated by a perceptible suture, and of glassy texture, marked by an indistinct inconspicuous varix. Periphery of the last whorl well rounded.

Base somewhat attenuated, well rounded. Aperture oval; outer lip thin, clavate; inner lip short, strongly curved and appressed to the parietal wall covered by a thick callus.

Type and three specimens, Cat. No. 187080, U.S.N.M., come from Port Alfred (Coll. No. 621). The type has seven whorls, and : Length, 1.5 mm.; diameter, 0.5 mm.

No. 250378, U.S.N.M., contains two additional specimens from the same locality (Coll. No. 1251).

MELANELLA DISTINCTA Smith.

No. 187075, U.S.N.M., contains two specimens from Port Alfred (Coll. No. 616).

MELANELLA LANGLEYI Sewerby.

No. 186856, U.S.N.M., six specimens from Port Alfred (Coll. No. 616).

MELANELLA FARICA, new species.

Plate 20, fig. 1.

Small, very irregularly elongate-conic, semitranslucent, bluish white. Postnuclear whorls well rounded, creeping up on the preceding whorl and giving the outline at the summit a somewhat excurved profile, the extreme summit being very feebly shouldered. This, together with the fact that the posterior limit of the inside of the whorls shines through the substance of the shell, gives the appearance of having a spiral cord at the summit. The whorls are very high between the sutures, and are smooth and polished. Radiating varices at intervals of slightly more than one-half a whorl, forming almost two lines of varices on the two sides of the sutures strongly marked. Periphery of the last whorl well rounded.

Base attenuated. Aperture oval; posterior angle acute; produced into a claw-like element in its middle; inner lip straight, oblique, reflected over and adnate to the body of the parietal wall covered with a thick callus, which renders the aperture complete.

Type and another specimen, Cat. No. 249711, U.S.N.M., come from Port Alfred (Coll. No. 983). The type has seven whorls, and : Length, 3 mm.; diameter, 0.8 mm.

No. 250379, U.S.N.M., contains another specimen of this form from the same locality (Coll. No. 1252).

MELANELLA TRAZA, new species.

Plate 19, fig. 2.

Shell small, elongate-conic, very slightly falcate, bluish translucent. The whorls are very gently rounded; appressed at summit, through which the preceding whorl shines, which gives the shell the appearance of having a double suture. Suture scarcely marked. Periphery of the last whorl slightly inflated. Base moderately long, well rounded; entire surface marked by exceedingly fine lines of growth, and an occasional inconspicuous varix. Aperture oval; posterior angle acute; outer lip clavate; inner lip very oblique, slender, strongly curved and decidedly reflected, free; parietal wall covered with a moderately thick callus.

The type and two other specimens, Cat. No. 187078, U.S.N.M., come from Port Alfred (Coll. No. 619). The type has eight whorls and measures: Length, 3.2 mm.; diameter, 1.1 mm.

MELANELLA ASKER, new species.

Plate 25, fig. 7.

Shell very minute, bluish white; transparent; not falcate. Whorls almost flattened; appressed at the summit, through which the preceding whorl shines, which lends the shell the aspect of having a double suture. Suture scarcely perceptible. Periphery of the last whorl well rounded. Base moderately long, well rounded; entire surface of spire and base marked by exceedingly fine, increasing lines. No varicial markings are apparent on any of our specimens. Aperture oval, posterior angle acute; outer lip clavate; inner lip short, curved, slightly reflected; parietal wall covered by a moderately thick callus.

The type and two specimens, Cat. No. 187079, U.S.N.M., come from Port Alfred (Coll. No. 620). The type has five and one-half whorls, and measures: Length, 1.7 mm.; diameter, 0.7 mm.

Cat. No. 250382, U.S.N.M., contains another specimen from the same locality (Coll. No. 1255).

MELANELLA, species?

Cat. No. 250385, U.S.N.M., contains the tip of a large, straight species from Port Alfred, differing from any of those I have seen from South Africa (Coll. No. 1258).

MELANELLA ACRIFA, new species.

Plate 20, fig. 8.

Shell large, regularly elongate-conic, thin. Nuclear whorls two, well rounded, forming a somewhat bulbous apex. Postnuclear whorls well rounded, appressed at the summit, the appressed portion appearing as a slender thread; entire surface marked by almost vertical, somewhat sinuous, strongly curved lines of growth. Sutures

constricted. Periphery of the last whorl well rounded. Base moderately long, well rounded, marked like the spire. Aperture oval; posterior angle acute; outer lip thin, showing the growth lines within; inner lip almost vertical, decidedly reflected, free on the anterior half; parietal wall glazed with a moderately thick callus.

The type and another specimen, Cat. No. 249713, U.S.N.M., come from Port Alfred (Coll. No. 985). The type has six postnuclear whorls, and measures: Length, 9.2 mm.; diameter, 3.1 mm.

MELANELLA, species?

Cat. No. 250386, U.S.N.M., contains the tip of a *Melanella*, consisting of five whorls, which are absolutely cylindrical, and differs from anything I know of from South Africa, but I refrain from describing it until better material is at hand. Port Alfred (Coll. No. 1259).

MELANELLA CIVARA, new species.

Plate 20, fig. 5.

Shell minute, acicular, semitranslucent, flesh-colored, variegated with brown. Nuclear whorls two, well rounded, translucent, pale brown. Postnuclear turns very slightly rounded, almost transparent, variegated with translucent pale brown and opaque flesh-colored spots, appressed at the summit, polished, apparently without varicial markings. Suture scarcely defined. The inner posterior termination of the whorls appear as a suture through the substance of the shell. Periphery well rounded. Base attenuated, well rounded. Aperture elongate-oval; posterior angle acute; outer lip drawn forward in the middle to form a claw-like element; inner lip almost straight, oblique, reflected over and appressed to the body whorl throughout its entire length; parietal wall glazed by a moderately thick callus.

The type, Cat. No. 250381, U.S.N.M., comes from Port Alfred (Coll. No. 1254). It has five postnuclear whorls, and measures: Length, 2.1 mm.; diameter, 0.6 mm.

MELANELLA IRAFCA, new species.

Plate 20, fig. 6.

Shell of medium size, regularly elongate-conic, bluish white, flecked with irregularly disposed blotches of pale golden yellow, a narrow peripheral zone of the same tint, and with a small spot of the same color marking the umbilical region. Nuclear whorls decollated. Postnuclear whorls rather high between the sutures, which are very poorly expressed, the posterior termination of the inside of the whorls appearing as the suture. Outer surface polished, marked only by an occasional varicial line. Periphery of the last whorl well rounded. Base prolonged, well rounded. Aperture elongate-oval; posterior angle acute; outer lip drawn forward into a claw-like element in the

The type and another specimen, Cat. No. 249719, U.S.N.M., come from Port Alfred (Coll. No. 991). The type has nine postnuclear whorls remaining, the nucleus, and probably the first two of the succeeding turns, having been lost. It measures: Length, 11 mm.; diameter, 4.3 mm.

Another specimen from the same locality is entered as Cat. No. 186861, U.S.N.M. (Coll. No. 231).

Family PYRAMIDELLIDAE.

Genus PYRAMIDELLA Lamarck.

PYRAMIDELLA (ORINELLA) AFRICANA, new species.

Plate 14, figs. 2, 4.

Shell elongate-conic, light brown. Nuclear whorls two, small, planorboid, having their axis at right angles to that of the succeeding turns, in the first of which they are very slightly immersed. Post-nuclear whorls almost flat, feebly shouldered at the summit, marked by very fine incremental lines, and exceedingly fine spiral striations. Suture moderately constricted. Periphery of the last whorl well rounded. Base short, well rounded, narrowly umbilicated, marked like the spire. Aperture subquadrate; posterior angle acute; outer lip thin; inner lip almost vertical, strongly reflected, provided with a fold a little anterior to its insertion.

Cat. No. 186841a, U.S.N.M. contains three specimens from Port Alfred (Coll. No. 208). Two of these are young individuals having the nucleus, and one an adult shell, which has lost the nuclear whorls, and probably the first four succeeding turns. The adult specimen, the type, has seven whorls remaining, and measures: Length, 6.1 mm.; diameter, 1.8 mm. One of the young specimens has eight postnuclear whorls, and measures: Length, 3.7 mm.; diameter, 1.2 mm.

PYRAMIDELLA (ORINELLA) ALFREDENSIS, new species.

Plate 14, figs. 5, 7.

Shell elongate-conic, milk white. Nuclear whorls very small, one and three-fourths, planorboid, having their axis at right angles to that of succeeding turns. The left side of the nucleus projects considerably beyond the outline of the postnuclear spire. Postnuclear whorls almost flat; feebly shouldered at the summit, marked by exceedingly fine, retractive, incremental lines, and numerous microscopic spiral striations. Suture moderately constricted. Periphery of the last whorl well rounded. Base well rounded, decidedly umbilicated, marked like the spire. Aperture subquadrate; posterior angle acute; outer lip thin; inner lip very oblique, and decidedly reflected, provided with a strong fold near its insertion; parietal wall glazed with a thin callus.

The type and another specimen, Cat. No. 249709, U.S.N.M., come from Port Alfred (Coll. No. 981). The type has six postnuclear whorls, and measures: Length, 4 mm.; diameter, 1.2 mm

Genus *TURBONILLA* Risso.

TURBONILLA (PTYCHEULIMELLA) ERNA, new species.

Plate 16, fig. 2.

Shell very small, elongate-conic, bluish white, translucent. Nuclear whorls at least two, well rounded, forming a depressed helicoid spire, the axis of which is almost at right angles to the axis of the succeeding turns. The nuclear spire is about one-fourth immersed in the first of the succeeding whorls. Postnuclear whorls slightly rounded, strongly appressed at the summit, marked by extremely feeble, almost vertical axial ribs which are so poorly defined that they can scarcely be counted. In addition to the axial sculpture, the entire surface of the whorls is marked by closely spaced, microscopic, spiral striations. Sutures well constricted. Periphery of the last whorl somewhat angulated. Base short, well rounded. Aperture elongate-ovate; posterior angle obtuse, outer lip thin, inner lip strongly curved and slightly reflected; parietal wall covered by a thin callus.

The type and another specimen, Cat. No. 250371, U.S.N.M., come from Port Alfred (Coll. No. 1244). The type has seven postnuclear whorls, and measures: Length, 3 mm.; diameter, 0.7 mm.

TURBONILLA (CHEMNITZIA) GEMMULA Smith.

Cat. No. 186847, U.S.N.M., contains two specimens of this species from Port Alfred (Coll. No. 214).

TURBONILLA (CHEMNITZIA) KRAUSSI Clessin.

Cat. No. 186843a, U.S.N.M., one specimen from Port Alfred (Coll. No. 210a).

TURBONILLA (PSELLIOGYRA) ADABA, new species.

Plate 15, fig. 5.

Shell broadly elongate-conic, white. Nuclear whorls well rounded, smooth, obliquely immersed in the first of the succeeding turns, above which the tilted edge of the last volution only projects. Postnuclear whorls almost flattened, very strongly, tabulatedly shouldered at the summit, crossed by strong, very regular, somewhat sinuous, slightly protractive, axial ribs, of which 20 occur upon the second and third, 22 upon the fourth and fifth, 24 upon the sixth, and 28 upon the penultimate turn. These ribs extend prominently from the shoulder, which they render crenulated, to the periphery of the turn. Intercostal spaces a little wider than the rib. A spiral cord in the intercostal is present about one-fifth of the space between the sutures

SYRNOLA *SYRNOLA*: Length, 7.5 mm.; diameter, 2.2 mm. Cat. No. 186859, U.S.N.M. (Coll. No. 228). Two specimens of this species collected at Port Alfred (Coll. No. 228). Cat. No. 249705, U.S.N.M., two additional specimens from Port Alfred (Coll. No. 977).

***PYRAMIDELLA SYRNOLA MINOR* Smith.**

Cat. No. 186859, U.S.N.M., contains a specimen from Port Alfred (Coll. No. 228).

***PYRAMIDELLA SYRNOLA*), species?**

Cat. No. 187074, U.S.N.M., contains a young individual from Port Alfred. We are unable to refer to any of the known forms (Coll. No. 228).

***PYRAMIDELLA SYRNOLA TARPEIA*, new species.**

Plate 14, fig. 6.

Shell small, elongate-conic, subdiaphanous. Nuclear whorls small, slightly immersed in the first of the succeeding turns, above which the rounded, tilted edge of the last volution only projects. Postnuclear whorls high between the sutures, slightly rounded, slightly shouldered at the summit; marked by retractive lines of growth and exceedingly fine, spiral striations. Sutures well impressed. Periphery of the last whorl well rounded. Base somewhat rounded, well rounded, marked like the spire. Aperture oval, with a thin, white, outer lip thin, inner lip very short, decidedly reflected over and appressed; parietal wall covered with a thin callus.

Two specimens, Cat. No. 187077, U.S.N.M., come from Port Alfred (Coll. No. 228). The type has almost six postnuclear whorls; length, 3.7 mm.; diameter, 1.3 mm.

***PYRAMIDELLA SYRNOLA HERA*, new species.**

Plate 14, fig. 7.

Shell small, elongate-conic, white. Nuclear whorls more than one, slightly immersed in the first of the succeeding turns, above which the rounded, tilted edge of the last whorl only projects. Postnuclear whorls high between the sutures, slightly rounded, slightly shouldered at the summit, marked by retractive lines of growth and exceedingly fine spiral striations. The postnuclear whorl shines through the substance of the succeeding turns to the summit and appears as a band a little differently colored than the rest of the shell. Sutures well marked. Periphery well rounded. Base slightly prolonged, well rounded. Aperture ovate; posterior angle acute; outer lip thin; the inner lip, short; reflected over and appressed to the base; parietal wall covered with a thin callus.

TURBONILLA (PYRGISCUS) TRITONIA, new species.

Plate 19, fig. 4.

Shell very small, slender, elongate-conic, white. Nuclear whorls two and one-half; depressed helicoid, having their axis at a right angle to that of the succeeding turns, in the first of which they are about one-third immersed. Postnuclear whorls slightly rounded, weakly shouldered at the summit; marked by strong, slightly curved, almost vertical axial ribs, of which 16 occur upon the first and second, 18 upon the third and fourth, and 20 upon the penultimate turn. The intercostal spaces, which are about as wide as the ribs, are crossed by 10 equally spaced, narrow, incised, spiral grooves, of which the third one below the summit is about twice as wide as the rest, which are subequal. Periphery of the last whorl well rounded. Base moderately long, well rounded, marked by the continuations of the axial ribs, which extend feebly to the umbilical region and about 15 incised spiral lines, which grow successively weaker and closer spaced from the periphery to the umbilical region. Aperture oval; outer lip thin; inner lip strongly curved and reflected, provided with a strong fold at its insertion; parietal wall covered with a thick callus.

The type and two additional specimens, Cat. No. 187046, U.S.N.M., come from Port Alfred (Coll. No. 584). The type has five and one-half whorls, and measures: Length, 2 mm.; diameter, 0.6 mm. Cat. No. 250370, U.S.N.M., contains two additional specimens from Port Alfred (Coll. No. 1243).

TURBONILLA (PYRGISCUS) ZENOBIA, new species.

Plate 16, fig. 6.

Shell elongate-conic, bluish-white. Nuclear whorls more than two, smooth, forming a depressed helicoid spire, the axis of which is at right angles to that of the succeeding turns, above the first of which the tilted edge of the last two volutions only project. Postnuclear whorls slightly rounded and feebly shouldered at the summit, marked with strong, rounded, sinuous and protractive axial ribs, which extend strongly from the summit of the whorls to the suture. Of these ribs, 16 occur upon the first and second, 18 upon the third to fifth, 20 upon the sixth and seventh, and 22 upon the penultimate turn. Intercostal spaces a little wider than the ribs, marked by well incised, spiral lines which pass over the intercostal spaces and the ribs. Of these lines, 8 appear on the first and second, 10 upon the third, 12 upon the fourth, 15 upon the fifth, 16 upon the sixth, 17 upon the seventh, and 18 upon the penultimate turn. Sutures strongly impressed. Periphery of the last whorl well rounded. Base short, well rounded, marked by 11 slender spiral threads, which are about half as wide as the spaces that separate them and diminish in

Cat. No. 186851a, U.S.N.M., contains a badly-worn specimen of
Port Alfred (Coll. No. 218a). It is much smaller than the last
referred to, and is probably a new species.

Genus EUGYRINA Dall.

EUGYRINA GEMNIFERA Euthyme.

Plate 9, figs. 1, 4.

Cat. No. 227776, U.S.N.M., two specimens from Port Alfred (Coll. No. 871). I have figured one of these for comparison with the subspecies described below. Cat. No. 187023, U.S.N.M., contains another specimen from the same locality (Coll. No. 558). Cat. No. 186705, U.S.N.M., a young tip from the same locality (Coll. No. 65a). Cat. No. 186787, U.S.N.M., contains one specimen from the same place (Coll. No. 148.)

EUGYRINA GEMNIFERA LEPTA, new subspecies.

Plate 8, figs. 1, 4.

Shell similar to *E. gemnifera* but narrower and much lighter in weight. The sculpture is decidedly reduced. The tubercles are much more numerous and much less strongly defined than in *E. gemnifera*, there being 12 on the last volution of typical *gemnifera* while *lepta* has 20 and 14 on the whorl preceding to 22 in *lepta*. In fact, the entire sculpture is much finer in *lepta* than in *gemnifera*.

Cat. No. 227777, U.S.N.M., contains the type and another specimen from Port Alfred (Coll. No. 872) and Cat. No. 187024, U.S.N.M., contains one specimen from the same locality (Coll. No. 559). The type has lost the tip, the seven whorls remaining measure: Length, 84.2 mm.; greater diameter, 46.3 mm.

Genus ARGOBUCCINUM Mörch.

ARGOBUCCINUM ARGUS Gmelin.

Cat. No. 91, U.S.N.M., one specimen collected by William Stimpson on the North Pacific Exploring Expedition at Simons Bay. Cat. No. 16920, U.S.N.M., two from Cape of Good Hope. Cat. No. 125376, U.S.N.M., two from Cape Town, collected by the U. S. Eclipse Expedition in 1890. Cat. No. 227775, U.S.N.M., one specimen from Port Alfred (Coll. No. 870).

ARGOBUCCINUM, species?

Cat. No. 97, U.S.N.M., a fragment of a large specimen embracing the aperture and part of the pillar, collected by William Stimpson on the North Pacific Exploring Expedition at Simons Bay.

Genus CYMATIUM Bolten.

CYMATIUM DOLIARIUM Lamarck.

Cat. No. 106, U.S.N.M., two specimens collected by William Stimpson on the North Pacific Exploring Expedition at Simons Bay. Cat. No. 88628, U.S.N.M., two from Cape of Good Hope. Cat. No. 186788, U.S.N.M., two from Port Alfred (Coll. No. 149).

bands posteriorly, and half as wide anteriorly. They are of the same color as the interior of the aperture, while the dark areas are yellowish brown. The outer edge of the columellar callus is also smokily tinted.

NYCTILOCHUS, species ?

Cat. No. 250437, U.S.N.M., contains a ponderous species from Port Alfred, which is too badly worn to be properly identified. (Coll. No. 1310.)

Genus CRYOTRITONIUM Martens.

CRYOTRITONIUM MURRAYI Smith.

Cat. No. 206005, U.S.N.M., one specimen from Agulhas Bank, South Africa.

Genus ASPELLA Mörch.

ASPELLA ANCEPS Lamarck ?

Cat. No. 186791, U.S.N.M., two specimens from Port Alfred (Coll. No. 154). These are not like our *A. anceps* Lamarck from the west coast of America, the type locality, but the specimens before us are so poor to be properly diagnosed, so I let them stand under the name under which they have appeared in the past from South Africa.

NEPIONIC SHELLS.

Cat. No. 249727, U.S.N.M., contains three nepionic shells belonging to the Cymatiidae, from Port Alfred (Coll. No. 999).

Family CASSIDIDAE.

Genus CASSIS Lamarck.

CASSIS ACHATINA Lamarck.

Cat. No. 43078, U.S.N.M., one from Cape of Good Hope. Cat. No. 77298, U.S.N.M., two from the same locality. Cat. No. 97976, U.S.N.M., eight from Kleinemonde, Albany. Cat. No. 186792, U.S.N.M., one from Port Alfred (Coll. No. 155).

CASSIS ZEALANICA Lamarck.

Cat. No. 18400a, U.S.N.M., one from Cape of Good Hope. Cat. No. 187025, U.S.N.M., one from Port Alfred (Coll. No. 561). Cat. No. 227778, U.S.N.M., one specimen from the same place (Coll. No. 873.)

CASSIS PYRUM Lamarck.

Cat. No. 95, U.S.N.M., one specimen collected by William Stimpson on the North Pacific Exploring Expedition at Simons Bay. Cat. No. 18400, U.S.N.M., one from Cape of Good Hope. Cat. No. 18802, U.S.N.M., one from Port Elizabeth.

Family DOLIIDAE.

Genus DOLIUM Lamarck.

DOLIUM DUNKERI Hanley.

Cat. No. 18798, U.S.N.M., one from Port Elizabeth. Cat. 186793, U.S.N.M., one from Port Alfred (Coll. No. 156).

Family AMPHIPERASIDAE.

Genus AMPHIPERAS Meuschen.

AMPHIPERAS BECKERI Smith.

Cat. No. 186977, U.S.N.M., one specimen from Port Alfred (No. 509). Cat. No. 249662, U.S.N.M., contains another specimen from the same locality (Coll. No. 934).

AMPHIPERAS SMITHI, new species.

Plate 10, figs. 1, 3.

Shell irregularly elongate-ovate, purplish pink, with a moderate wide median band, and the tips and lip yellowish white. The surface of the shell is smooth, excepting fine, equally spaced and equally tributed, spiral threads which are best developed near the anterior and posterior fourth, becoming weaker as they approach the center. In addition to this spiral sculpture, there are exceedingly fine concentric lines of growth which are best seen in the spaces between the spiral threads. Aperture elongate-lunate, outer lip thick, forming a strong rounded callus at the edge; inner lip represented by a thin callus placed upon the body whorl, which becomes decidedly thickened on the anterior and posterior horns; a short distance posterior to the anterior end there is an oblique fold on the inner lip.

The type, Cat. No. 227715, U.S.N.M., comes from Port Alfred (No. 810). It measures: Length, 19.5 mm.; diameter, 8.1 mm.

Family CYPRAEIDAE.

Genus CYPRAEA Linnaeus.

CYPRAEA CAPENSIS Lamarck.

Cat. No. 18174, U.S.N.M., one from Natal. Cat. No. 77265, U.S.N.M., three from Cape of Good Hope. Cat. No. 77266, U.S.N.M., two collected by E. R. Mayo at the same place. Cat. No. 77267, U.S.N.M., two from Cape of Good Hope. Cat. No. 97980, U.S.N.M., six from Kleinemonde, Albany. Cat. No. 186796, U.S.N.M., from Port Alfred (Coll. No. 161). Cat. No. 250318, U.S.N.M., specimen from the same source (Coll. No. 1191). Cat. No. 250319, U.S.N.M., one specimen from the same locality (Coll. No. 1191). Cat. No. 272122, U.S.N.M., four from Port Elizabeth.

CYPRAEA SIMILIS Gray.

Cat. No. 220121, U.S.N.M., one specimen from Cape of Good Hope. Cat. No. 249661, U.S.N.M., contains two specimens from Port Alfred (Coll. No. 933).

CYPRAEA VITELLUS Linnaeus.

Cat. No. 250317, U.S.N.M., contains a badly worn specimen from Port Alfred (Coll. No. 1190).

CYPRAEA, species ?

Cat. No. 250320, U.S.N.M., contains a young specimen from Port Alfred which I am unable to identify positively (Coll. No. 1193).

CYPRAEA EDENTULA Gray.

Cat. No. 43162, U.S.N.M., two from Cape of Good Hope. Cat. No. 75564, U.S.N.M., four from the same locality. Cat. No. 77709, U.S.N.M., two from the same place. Cat. No. 97977, U.S.N.M., five from Kleinemonde, Albany. Cat. No. 97978, U.S.N.M., seven from the mouth of Fish River. Cat. No. 97979, U.S.N.M., two from Kleinemonde, Albany. Cat. No. 186795, U.S.N.M., two from Port Alfred (Coll. No. 159.) Cat. No. 250319, U.S.N.M., contains another specimen from Port Alfred (Coll. No. 1192). Cat. No. 272123, U.S.N.M., one specimen from South Africa. Cat. No. 272125, U.S.N.M., four from Port Elizabeth.

CYPRAEA CITRINA Gray.

Cat. No. 186794, U.S.N.M., one specimen from Port Alfred (Coll. No. 158). Cat. No. 186978, U.S.N.M., one from the same source (Coll. No. 510).

CYPRAEA ALGOENSIS Gray.

Cat. No. 227713, U.S.N.M., one specimen from Port Alfred (Coll. No. 808). Cat. No. 227714, U.S.N.M., one specimen from the same locality (Coll. No. 809).

CYPRAEA OVULA Lamarck.

Cat. No. 18455, U.S.N.M., one from R. D. Darbshire, collected in Natal. Cat. No. 43157, U.S.N.M., three from Cape of Good Hope. Cat. No. 77717, U.S.N.M., two from the same place. Cat. No. 186976, U.S.N.M., three from Port Alfred (Coll. No. 508).

CYPRAEA FIMBRIATA Gmelin.

Cat. No. 249660, U.S.N.M., contains a specimen from Port Alfred Coll. No. 932.

grooves. Aperture moderately large, channeled anteriorly; outer lip forming a decided angle at the junction; basal lip, rendered decidedly wavy at the edge by the

The type and another specimen, Cat. No. 249685, U.S.N.M., come from Port Alfred (Coll. No. 957). The type has $13\frac{1}{2}$ postnuclear whorls, and measures: Length, 9.6 mm.; diameter, 3 mm.

TRIPHORIS OREADA, new species.

Plate 11, fig. 4.

Shell elongate-conic, flesh colored. Nuclear whorls decollated, excepting a very small portion of the last turn, which is smooth. Post-nuclear turns marked by three lamellar, spiral keels, which are very feebly tuberculated. Of these keels the first is at the summit and the last about as far above the suture as it is from the median, which is half way between the other two. These spiral lamellae are truncated abruptly anteriorly and posteriorly and are somewhat flattened at the summit and are about as wide as the spaces that separate them. In addition to the spiral lamellae, the whorls are marked by numerous, feeble, slightly retractive axial ribs, which are best developed in the grooves between the spiral lamellae, passing up on the sides of these and rendering them weakly nodulous on the two sides. Of these ribs, about 20 occur upon the first to third, 22 upon the fourth to sixth, 24 upon the seventh, 26 upon the eighth, 28 upon the ninth to eleventh and 30 upon the penultimate turn. The spaces inclosed between the spiral lamellae and the axial riblets are squarish, weakly impressed pits. Periphery of the last whorl marked by a spiral cord a little weaker than the lamellae on the spire and separated from the supra-peripheral cord by a sulcus about as wide as those on the spire, which is crossed by the feeble continuations of the axial riblets. Base provided with another spiral cord which is half way between the peripheral cord and the insertion of the columella. Aperture very strongly twisted and channeled anteriorly, slightly less so posteriorly; outer lip patulous, thin, showing the external sculpture within; columella very much twisted and curved, covered with a thick callus which also extends over the parietal wall and renders the peritreme complete.

Cat. No. 249682, U.S.N.M., contains the type and another specimen, both from Port Alfred (Coll. No. 954). The type has 13 whorls, and measures: Length, 8.8 mm.; diameter, 2.1 mm.

TRIPHORIS, species?

Cat. No. 187045, U.S.N.M., contains a young, broadly conic, brown species, from Port Alfred, which differs from any of the other material we have seen from South Africa, but is too young to be positively determined (Cat. No. 583).

TRIPHORIS AFRICANA, new species.

Plate 5, fig. 11.

Shell elongate-conic, light chestnut brown, except the nucleus and the early post-nuclear whorls which are wax yellow, with the

The type and another specimen, Cat. No. 186804a, U.S.N.M., come from Port Alfred (Coll. No. 170). The type has $13\frac{1}{2}$ whorls, and measures: Length, 5 mm.; diameter, 1.7 mm. Cat. No. 227717, U.S.N.M., contains six specimens from the same locality (Coll. No. 812). Cat. No. 249679, U.S.N.M., one specimen from same locality (Coll. No. 951).

TRIPHORIS CAPENSIS, new species.

Plate 5, fig. 4.

Shell very elongate-ovate, white. Nuclear whorls decollated. Postnuclear whorls flattened, the first two marked by two strong spiral cords, of which the first is at the summit, and the second a little nearer the suture than to the one at the summit. Beginning with the second whorl, a slender spiral cord appears between the other two, which increases rapidly in size obtaining almost the strength of the other two on the last volution. In addition to these spiral cords, the whorls are marked with well rounded, almost vertical, straight, axial ribs, of which 14 occur upon the first, 18 upon the second to fifth, 20 upon the sixth, and 22 upon the penultimate turn. The junctions of the axial ribs and the spiral cord form low tubercles, while the spaces inclosed between them appear as deep squarish pits. Sutures strongly constricted. Periphery of the last whorl angulated, marked by a strong spiral cord which is feebly tuberculated. Base moderately long, the posterior half provided with two equal and equally spaced, spiral cords, while the anterior portion appears as a strongly tumid area. Aperture decidedly irregular, strongly channeled anteriorly; posterior angle decidedly channeled; outer lip thin, decidedly curved and very strongly produced anteriorly; the portion facing the columella is pinched in and so curved as to almost touch the columella, leaving only a very narrow slit between it and the columella; parietal wall covered with a very thick callus.

The type and another specimen, Cat. No. 187044, U.S.N.M., were collected at Port Alfred (Coll. No. 582). The type has eight post-nuclear whorls, and measures: Length, 5.1 mm.; diameter, 2 mm.

TRIPHORIS MADRIA, new species.

Plate 12, fig. 5.

Shell elongate-conic, white. Nuclear whorls large, forming a rather bulbous apex on the shell. The first turn smooth, the following encircled by three smooth, spiral bands. The second turn is larger in diameter than the two succeeding. Post-nuclear whorls moderately rounded, ornamented with three spiral cords, of which the one at the summit is a little weaker on the early whorls than on the rest. The third cord is about as far from the suture as it is from the median, while the median cord occupies a position halfway between the other two. The sulci separating the spiral cords are a little wider than the cords. In addition to the spiral cords the whorls are marked by

second at some little distance posterior to the suture. Beginning with the third whorl, a slender, spiral thread makes its appearance half way between the two strong cords; this increases steadily in size and on the last turn it bears nodules almost as strong as those of the other two cords. In addition to the spiral sculpture, the whorls are marked by slender, vertical, axial ribs, the junction of which with the spiral cords render them tuberculated. Of these ribs, 20 occur upon all but the last, which turn has 22. The spaces inclosed between the axial ribs and the spiral cords form well impressed pits. The tubercles of the cord at the summit are strongly rounded; those of the median cord are merely thickened lines at the junction on the first two whorls where they occur, while on the last, they are oval, their long axis coinciding with the spiral cord. Those of the third cord are truncated posteriorly, sloping gently anteriorly. Sutures a little broader than the sulci between the spiral cords. Periphery of the last whorl marked by a spiral sulcus which is about as broad as the one separating the suprapерipheral from the median cord on the last whorl. Base well rounded, marked by two spiral cords, the first of which is immediately below the periphery, the second half way between this and the insertion of the columella. In addition to the above mentioned sculpture, the entire surface of the shell is marked by fine lines of growth and microscopic, spiral striations. Aperture strongly channeled anteriorly, feebly so posteriorly, decidedly patulous at the junction of the outer and basal lip; outer lip thin, showing the external sculpture within and rendered sinuous at the edge by this sculpture; columella short, very stout, covered on its inner edge by a strong callus which is reflected over the parietal wall and renders the peritreme complete.

Cat. No. 249680, U.S.N.M., contains three specimens from Port Alfred (Coll. No. 952). One of these, the type, has six postnuclear whorls, and measures: Length, 3 mm.; diameter, 1.4 mm.

TRIPHORIS, species?

Cat. No. 250353, U.S.N.M., contains the tip of a dusky cylindric species, which we are unable to identify, from Port Alfred (Coll. No. 1226).

TRIPHORIS FUSCESCENS Smith.

The United States National Museum contains four lots of this species from Port Alfred, as follows: Cat. No. 186808, two specimens (Coll. No. 174). Cat. No. 220061, one specimen (Coll. No. 173a). Cat. No. 227721, two specimens (Coll. No. 816). Cat. No. 249674, two specimens (Coll. No. 946).

TRIPHORIS CEREА Smith.

Cat. No. 249681, U.S.N.M., contains three specimens from Port Alfred (Coll. No. 953).

neighbor is also a little wider than the other spaces. The spiral grooves are crossed by numerous, very slender, somewhat irregularly spaced, axial threads. Sutures strongly constricted, usually showing the peripheral cord. Periphery of the last whorl marked by a strong cord which is separated from the suprapерipheral cord by a groove as wide as that which separates this from its posterior neighbor. Base short, slightly rounded, marked by two low, broad, spiral cords which divide the space between the insertion of the columella and the peripheral cord equally, the spaces separating them being about equal to the cords in width and crossed by numerous, very slender, raised, axial threads. Aperture (fractured in all our specimens) strongly channeled anteriorly; outer lip rendered sinuous by the external sculpture; columella almost straight, strongly reflected over the reinforcing base, a callus extending over the parietal wall.

The type consists of the seven last whorls, which measure: Length, 9.5 mm.; diameter, 3 mm. It and another specimen, Cat. No. 186807 U.S.N.M., come from Port Alfred (Col. No. 173). The second specimen shows an intercalated spiral cord between the second and third keel and another between the third and fourth, almost equaling the keels in strength on the last volution.

Three additional lots, all from Port Alfred, are in the collection of the United States National Museum. Cat. No. 227722, two specimens (Coll. No. 817). Cat. No. 249683, two specimens (Coll. No. 955). Cat. No. 249675, two specimens (Coll. No. 947).

Family CERITHIOPSIDAE.

Genus CERITHIOPSIS Forbes and Hanley.

CERITHIOPSIS (CERITHIOPSIS) ALFREDENSIS, new species.

Plate 5, fig. 9.

Shell elongate-conic, light chestnut brown, with the early whorls wax-yellow. (Nuclear whorls decollated, the last one only remaining, which is smooth.) Postnuclear whorls almost flattened, marked with three strong spiral cords of which the first is at the summit, while the third is about as far above the suture as it is separated from the median. The latter is about halfway between the first and third. The spaces between the spiral cords are about as wide as the cords. In addition to the spiral sculpture, the whorls are marked by axial ribs which are almost as strong as the spiral cords. Of these ribs, 18 occur upon the first to fifth, 20 upon the sixth, 22 upon the seventh, 24 upon the eighth and the penultimate turn. The junction of the axial ribs and the spiral cords form prominent tubercles which are truncated posteriorly and slope gently anteriorly. The spaces inclosed between the axial ribs and spiral cords are well rounded,

addition to the above sculpture, the spire is marked by exceedingly fine lines of growth and microscopic spiral striations. Sutures channeled. Periphery of the last whorl marked by a spiral sulcus as broad as the one posterior to the suprasutural cord and, like that, crossed by the axial ribs, which terminate at its posterior margin. Base short, marked by two spiral cords which are of equal strength and confined to the posterior half of the base. The anterior half of the base between the last cord and the insertion of the columella is slightly concave in the adolescent shell. Aperture subquadrate, decidedly channeled anteriorly; posterior angle obtuse; outer lip rendered sinuous by the sculpture; columella stout; parietal wall glazed with a thin callus.

The type and another specimen, Cat. No. 250354, U.S.N.M., come from Port Alfred (Coll. No. 1227). The type, which is an adolescent specimen, has eight and a half postnuclear whorls and measures: Length, 4.5 mm.; diameter, 1.5 mm. Cat. No. 250357, U.S.N.M., contains another specimen from the same locality (Coll. No. 1230).

CERITHIOPSIS (CERITHIOPSIS) NINA, new species.

Plate 12, fig. 2.

Shell very small, light chestnut brown. Nuclear whorls smooth, forming the slender, mucronate apex of the shell. Postnuclear whorls slightly shouldered at the summit, moderately rounded, marked by three spiral cords, of which the first is at the summit, the third about as far posterior to the suture as it is separated from its neighbor posteriorly. In addition to the spiral sculpture, the whorls are marked by strong axial ribs which equal the spiral sculpture in strength. The junctions of the axial ribs and the spiral cords form tubercles, while the spaces inclosed between them form well impressed, squarish pits. The tubercles of the cord at the summit are slightly truncated posteriorly, and slope gently anteriorly; those of the succeeding two cords are abruptly truncated posteriorly, sloping gently anteriorly. Of the axial ribs, 18 occur upon all the whorls except the penultimate, on which there are 20. Sutures moderately constricted. Periphery of the last whorl marked by a strong spiral cord, the space between it and the suprasutural cord being crossed by the continuation of the axial ribs which terminate at the posterior edge of the peripheral cord. Base slightly concave, with a spiral cord at the insertion of the columella. Aperture strongly channeled anteriorly, almost circular; outer lip thin; columella covered with a thick callus which is reflected over the parietal wall and connects this with the posterior angle of the aperture, rendering the peristome complete.

The type and another specimen, Cat. No. 250358, U.S.N.M., come from Port Alfred (Coll. No. 1231). The type has almost five post-nuclear whorls, and measures: Length, 1.9 mm.; diameter, 0.7 mm.

strongly impressed pits. Sutures strong of the last whorl marked by a strong spiral from the first suprapерipheral cord by a groove separating the cords on the spire, and, like continuations of the axial ribs, which terminate of the peripheral cord. Base moderate, the peripheral cord extending over one strong spiral cord encircles the columella between this and the peripheral cord bearing a broad, spiral groove. Anterior to the suture on the columella, there is another deeply striate. Aperture irregular, decidedly channeled, third, channeled; outer lip irregular, sinuous, the lip reflected over and appressed to the basal cords, thick callus which connects the columella as well as the suture. The suture is the summ

The type, Cat. No. 186803, U.S.N.M. (Coll. No. 169). It has 10 postnuclear whorls, 5 mm.; diameter, 1.5 mm. Three specimens, one of the United States National Museum (Cat. No. 227727, two specimens (Coll. No. 964). Cat. No. 1228).

CERITHIOPSIS (CERITHIOPSIS)

Cat. No. 227726, U.S.N.M. (Coll. No. 821). Another specimen from Port Alfred (Coll. No. 1228).

CERITHIOPSIS

Shell very light chestnut. Postnuclear whorls very slightly shouldered, while the last second, midway between the whorls are marked by almost equal the spiral axial ribs and the spiral cords closed between them at the suture. The nodules on the suture on the middle cord are anteriorly, which is also the suture are even more abrupt than the axial ribs, 18 occur upon the sixth and

No. 249688, U.S.N.M.

The type has a diameter, 1.1 mm. Specimens from Port Alfred.

~~CERITHIOPSIS~~ species?

It contains two species (Coll. No. 227727) and two forms, and the suture is marked by three strong

~~CERITHIOPSIS~~ SABA, new species.

Fig. 8.

Specimens, excepting the suture, which are smoky white, the suture which is white, is marked by three strong

which the first is at the summit, while the third is about as far above the suture as it is distant from the cord adjacent to it posteriorly, median cord being a little nearer than that a little anterior to it. In addition to the spiral cords the whorls are marked by strong axial ribs, of which 18 occur upon all the whorls. The intersection of the spiral cords and the axial ribs, form very strong tubercles, while the spaces inclosed between them appear as well impressed, oval pits, the long axis of which coincides with the spiral sculpture. The tubercles of the cord at the summit are well rounded; those of the other two cords are truncated anteriorly, sloping posteriorly; those of the median cord a little less so than those of the suprasutural cord. Sutures strongly channeled. Periphery of the last whorl marked by a sulcus which is as strong as that between the median and the suprasutural cord and like that crossed by the continuations of the axial ribs which extend over the cord anteriorly to the peripheral sulcus and renders this slightly tuberculated. Base marked by two spiral cords, the first immediately anterior to the peripheral sulcus, the other one occupying a position half way between this and the tip of the columella. Columella anterior to the second cord is crossed by several slender spiral threads. Aperture moderately large, decidedly channeled anteriorly; outer lip rendered sinuous by the external sculpture; inner edge of the columella covered with a thick callus which extends over the parietal wall, rendering the peritreme complete.

The type, Cat. No. 249690, U.S.N.M., comes from Port Alfred (Coll. No. 962). It has six and a half postnuclear whorls, and measures: Length, 3.8 mm.; diameter, 1.5 mm.

CERITHIOPSIS, species?

Cat. No. 250356, U.S.N.M., contains a worn specimen from Port Alfred (Coll. No. 1229). This is different from any we know from the region, but is too poor to be described.

Genus *SEILA* A. Adams.

SEILA ALFREDENSIS, new species.

Plate 5, fig. 6.

Shell very elongate-conic, light chestnut brown, maculated with blotches and spots of white. Nuclear whorls three, smooth, well rounded, white, forming a bulbous apex, the first turn being the largest. Postnuclear whorls moderately rounded, ornamented with four strong, flattened, subequal and subequally spaced spiral cords, of which the first is at the shouldered summit, while the anterior portion of the last abuts the summit of the succeeding whorls. The spaces inclosed between these cords are about as wide as the cords

cord as that is from the one posterior to it; while the second, which is considerably more slender, is a little posterior to the insertion of the columella, the insertion of the columella being marked by a strongly impressed groove. In addition to the above sculpture, the entire base is marked by numerous, very slender, raised axial threads and exceedingly fine, spiral, striations. Aperture subcircular, decidedly channeled anteriorly; posterior angle obtuse; outer lip thin, rendered sinuous by the spiral keels; columella short, strongly curved and reflected over and appressed to the base; parietal wall covered with a thin callus.

The type and three specimens of this species Cat. No. 187043, U.S.N.M., come from Port Alfred (Coll. No. 581). The type has 10 postnuclear whorls and measures: Length, 7.6 mm.; diameter, 2.2 mm. The present species is much smaller than *S. alfredensis*. In coloration it is uniform chestnut brown, while *S. alfredensis* is maculated. The axial sculpture consists of much finer and much more numerous raised threads in *africana* than in *alfredensis*. The base of the present species has two spiral cords, while in *alfredensis* we have two incised lines only.

Two additional lots from Port Alfred are in the collection of the United States National Museum. Cat. No. 249686, 4 specimens (Coll. No. 958). Cat. No. 249687, 4 specimens (Coll. No. 959.)

SEILA SMITHI, new species.

Plate 12, fig. 7.

Shell very slender, elongate-conic, light chestnut brown, the tip a little lighter. First half of the nuclear turns smooth, the succeeding two and a half, well rounded, marked by two spiral threads and numerous, fine axial riblets, which are best expressed near the summit. Postnuclear whorls well rounded, marked by strong, somewhat flattened, equal and equally spaced, sublamellar spiral cords, of which 5 occur between the sutures, the first being at the summit, which it renders shouldered, and the last at the suture. The sulci, between the cords, are a little wider than the cords and are crossed by exceedingly numerous, very slender, slightly retractive axial threads. Sutures strongly constricted. Periphery of the last whorl marked by a strong spiral cord, which appears in the suture of the preceding whorls and furnishes the fifth cord on the spire. Base short, slightly concave on the posterior half, marked by very slender spiral threads at the insertion of the columella and lines of growth only. Aperture strongly channeled anteriorly; posterior angle obtuse; outer lip thin, rendered sinuous by the external sculpture, which shows through the substance of the outer lip; columella short, slightly curved, covered with a thin callus which extends up on the parietal wall.

CERITHIUM CRASSILABRUM Krauss.

Cat. No. 249689, U.S.N.M., contains a specimen from Port Alfred (Coll. No. 961).

CERITHIUM (POTAMIDES) DECOLLATA Linnaeus.

Cat. No. 18603, U.S.N.M., one specimen from Natal. Cat. No. 272132 U.S.N.M., four from Port Elizabeth.

Family PLANAXIDAE.**Genus PLANAXIS Lamarck.****PLANAXIS PYRAMIDALIS Deshayes.**

Cat. No. 21804, U.S.N.M., one specimen collected by Dunker at Algoa Bay.

Family CAECIDAE.**Genus CAECUM Fleming.****CAECUM GLABRATUM Montagu.**

Cat. No. 227809, U.S.N.M., four specimens from Port Alfred (Coll. No. 904). Cat. No. 249793, U.S.N.M., one specimen from the same locality (Coll. No. 1065).

Family VERMETIDAE.**Genus VERMICULARIA Lamarck.****VERMICULARIA, species ?**

Cat. No. 187125, U.S.N.M., four worn specimens from Port Alfred (Coll. No. 671). Cat. No. 250540, U.S.N.M., contains three additional specimens from the same locality (Coll. No. 1413).

VERMICULARIA, species ?

Cat. No. 187120, U.S.N.M., four specimens of another species of *Vermicularia*, too fragmentary to be positively identified, from Port Alfred (Coll. No. 666). Cat. No. 227787, U.S.N.M., three specimens from the same locality (Coll. No. 882).

There are three lots of this species in the collection of the United States National Museum all from Port Alfred. Cat. No. 187124, four specimens (Coll. No. 670). Cat. No. 187127, one specimen (Coll. No. 673). Cat. No. 250541, three specimens (Coll. No. 1414).

Cat. No. 187122, U.S.N.M., two specimens of a fourth species from Port Alfred (Coll. No. 668) likewise too poor to be specifically determined. Cat. No. 250539, U.S.N.M., contains two additional specimens from Port Alfred (Coll. No. 1412).

Genus SILIQUARIA Bruguiere.**SILIQUARIA (PYXIPOMA) WELDI Tenison-Woods.**

Cat. No. 187119, U.S.N.M., four specimens from Port Alfred (Coll. No. 665).

and cord which is a little less strong than those occurring on the
 . Base short, almost flattened, marked with lines of growth
 exceedingly fine, spiral striations. Aperture irregular, subquad-
 somewhat effuse at the junction of the basal wall with the outer
 posterior angle obtuse; outer lip very thin, rendered sinuous by
 external sculpture, which is shown within by transmitted light;
 nella very slender, decidedly curved, and slightly reflected over
 appressed to the base; parietal wall covered with a thin callus.
 e type and seven additional specimens, Cat. No. 193, U.S.N.M.,
 collected by William Stimpson on the North Pacific Exploring
 expedition at Simons Bay. The type has $14\frac{1}{2}$ whorls, and meas-
 Length, 20.5 mm.; diameter, 5.8 mm.

TURRITELLA KOWIENSIS Sewerby.

our lots of this species are in the collection of the United States
 onal Museum, all from Port Alfred. Cat. No. 186809, one speci-
 (Coll. No. 175). Cat. No. 187038, two specimens (Coll. No. 575).
 No. 187039, two specimens (Coll. No. 576). Cat. No. 250405,
 specimen (Coll. No. 1278).

TURRITELLA CAPENSIS Krauss.

t. No. 19317, U.S.N.M., one specimen labeled South Africa
 out specific locality designation.

TURRITELLA KNYSNAENSIS Krauss.

t. No. 192, U.S.N.M., two specimens collected by William
 pson on the North Pacific Exploring Expedition at Simons

TURRITELLA, species.?

t. No. 187041, U.S.N.M., one specimen too poor to be positively
 mined, from Port Alfred (Coll. No. 578).

TURRITELLA, species.?

t. No. 250397, U.S.N.M., contains the type of a young, very
 er, white species from Port Alfred, which we are unable to
 ify (Coll. No. 1270).

Family LITTORINIDAE.

Genus LITTORINA Ferussac.

LITTORINA AFRICANA Philippi.

t. No. 18822, U.S.N.M., 3 specimens from Natal. Cat. No.
 78, U.S.N.M., 110 specimens from Cape of Good Hope. Cat. No.
 79, U.S.N.M., 8 specimens from the same locality. Cat. No.
 81, U.S.N.M., 6 specimens from the same place (Coll. No. 177).
 No. 187092, U.S.N.M., 2 specimens from Port Alfred (Coll. No.

Family LITIOPIDAE.

Genus ALABA A. Adams.

ALABA PINNAE Krauss.

There are three lots of this species in the United States National Museum, all from Port Alfred. Cat. No. 186813, seven specimens (Coll. No. 179). Cat. No. 187052, eight specimens (Coll. No. 590). No. 250413, one specimen (Coll. No. 1286).

Genus ALABINA Dall.

ALABINA ALFREDENSIS, new species.

Plate 5, fig. 7.

Shell elongate-conic, white. Nuclear whorls about two and one-half, smooth, well rounded. Postnuclear whorls with a strong girdle shoulder which extends over the posterior half of the whorls, bounded anteriorly by a median spiral keel. A second keel, less strong than the median, occupies the space halfway between the girdle and the median keel. In addition to the above sculpture the whorls are marked on the anterior half, between the sutures, by fine axial ribs which lend the two keels a slightly tuberculated appearance. About twelve of these feeble tubercles occur upon the penultimate whorls. Periphery and base of the last whorl well rounded, the latter smooth, excepting feeble lines of growth. Aperture moderately large; outer lip thin; columella slightly curved and revolute; parietal wall glazed with a thin callus.

Type, Cat. No. 187053, U.S.N.M., comes from Port Alfred (Coll. No. 91). It has nine and one-half post-nuclear whorls, and measures: Length, 3.2 mm.; diameter, 1.2 mm.

ALABINA AFRICANA, new species.

Plate 12, fig. 1.

Shell small, elongate-conic, semitransparent, white. Nuclear whorls one and a half, well rounded, separated by a strongly constricted suture, and marked by four strong, equal and equally spaced, spiral keels. Postnuclear whorls well rounded, marked by almost equal, well rounded, quite regular, axial ribs, of which 14 occur upon the first and second, 16 upon the third and fourth, 18 upon the fifth and the penultimate turn. In addition to the axial ribs, the whorls are marked by two spiral cords a little anterior and posterior to the middle of the space between the sutures. The junction of the axial ribs and the spiral cords forms tubercles, which are truncated posteriorly and slope gently anteriorly, while the spaces inclosed between the ribs appear as well impressed pits. Sutures strongly constricted. Periphery of the last whorl marked by a strong, smooth, spiral cord. Aperture short, slightly concave, smooth. Aperture subcircular; pos-

tion to these I have seen four lots which have been returned to Colonel Turton, all from Port Alfred; they are: (Coll. No. 1591) 45 specimens. (Coll. No. 1595) 14 specimens. (Coll. No. 1597) 172 specimens. (Coll. No. 1598) 44 specimens.

DIALA CAPENSIS, new species.

Plate 6, fig. 10.

Shell small, subcylindric, pupiform, semitranslucent, pale yellow. Nuclear whorls not differentiated from the postnuclear turns. Postnuclear whorls somewhat inflated, appressed at the summit, through which the preceding whorl is visible, which lends the shell the appearance of having a double suture. The entire surface of the shell is marked by numerous retractive lines of growth and exceedingly fine spiral striations. Sutures strongly constricted. Periphery of the last whorl rounded. Base well rounded, narrowly umbilicated. Aperture moderately large, oval, outer lip very thin; inner lip strongly curved and slightly reflected over the umbilicus. Parietal wall covered with a thin callus.

The type, Cat. No. 187068a, comes from Port Alfred. (Coll. No. 606.) It has six and one-half postnuclear whorls, and measures: Length, 2.5 mm.; diameter, 1.1 mm.

DIALA ALMO, new species.

Plate 6, fig. 2.

Shell minute, broadly conic, with truncated apex, semitranslucent. Nuclear whorls not differentiated from the postnuclear turns. Postnuclear whorls feebly rounded, appressed at the summit, through which the preceding turn shows, lending the surface the aspect of having a double suture. Entire surface of the shell marked by fine lines of growth. Sutures feebly impressed. Periphery of the last whorl strongly inflated. Base well rounded, broadly umbilicated. Aperture very large; ovate; posterior angle obtuse; outer lip thin, decidedly flaring; inner lip curved and somewhat flexuous, slightly reflected over the umbilicus; parietal wall distinct, rendering the peritreme complete.

The type, Cat. No. 187066, U.S.N.M. comes from Port Alfred, (Coll. No. 604). It has five whorls, and measures: Length, 2 mm.; diameter, 1.2 mm. We have seen seven additional specimens from Port Alfred (Coll. No. 593), which have been returned to Colonel Turton.

Family SOLARIIDAE.

Genus *HELIACUS* Orbigny.

HELIACUS AFRICANUS, new species.

Plate 24, figs. 1, 3, 5.

Shell lenticular, brown, blotched and spotted with white and yellow. Nuclear whorls about one and a half, smooth; upper surface

se, spiral zones about the umbilicus. I am unable to identify any of the described species, and it is too worn to serve for diagnosis of a new form. (Coll. No. 1375.) Cat. No. 187095, M., contains another specimen from the same place. (Coll. 9.)

Family RISSOIDAE.

Genus NODULUS Monterosato.

NODULUS PERSPECTUS Smith.

No. 186819, U.S.N.M., two specimens from Port Alfred No. 185).

NODULUS AFRICANUS, new species.

Plate 31, fig. 5.

l cylindro-conic, white. Nuclear whorls one and a third, h, polished, well rounded. Postnuclear whorls rather high beneath the sutures, appressed at the summit, well rounded, excepting as immediately below the appressed summit on the later turns, is slightly concave. Entire surface marked by numerous, very spaced, microscopic, spiral striations and exceedingly fine, reverse lines of growth. Periphery of the last whorl well rounded; prolonged, moderately rounded; aperture subcircular; outer lip within shelving to a thin edge; inner lip reflected, almost verparietal wall covered by a thick callus which renders the pericomplete.

type, Cat. No. 250422, U.S.N.M., comes from Port Alfred No. 1295). It has $4\frac{1}{2}$ postnuclear turns and measures: Length, n.; diameter, 0.6 mm. The present species differs from *Nodulus actus* Smith by being cylindro-conic, instead of ovate, as well other characters.

Genus SABANAEA Monterosato.

SABANAEA PYRRHA, new species.

Plate 6, fig. 7.

ll minute, ovate. Early whorls pale smoky brown, the later white. Nuclear whorls apparently not differentiated from the nuclear turns. All the whorls well rounded, smooth, and appressed at the summit. Sutures feebly impressed. Periphery of the whorl obscurely angulated. Base short, almost concave in out-pressed at the umbilical area, and slightly attenuated anteriorly. Aperture subcircular, with a very thick peristome. Posterior obtuse; outer lip thick; inner lip very thick, curved and pressed to the base; parietal wall covered with a thick callus, which the posterior angle of the aperture to the inner lip.

Two additional lots, both from Port Alfred, are in the collection of the United States National Museum. Cat. No. 250416, one specimen (Coll. No. 1289), the other Cat. No. 250417, one specimen (Coll. No. 1290).

AMPHITHALAMUS AFRICANUS, new species.

Plate 21, fig. 6.

Shell minute, elongate-conic, semitransparent. Nuclear whorls one and a half, well rounded, smooth. Postnuclear whorls almost three, strongly rounded, appressed at the summit, marked by numerous, regular, fine, decidedly retractive axial riblets, the spaces between which are about one and a half times as wide as the riblets. Sutures strongly constricted. Periphery of the last whorl well rounded. Base somewhat produced, marked like the spire by the continuations of the riblets. Aperture broadly oval, decidedly oblique; outer lip thin; inner lip strongly curved at some little distance from the parietal wall. The space between the inner edge of the outer lip and the parietal wall form a shelf, as is usual in *Amphithalamus*.

The type, Cat. No. 250415, U.S.N.M., comes from Port Alfred (Coll. No. 1288). It measures: Length, 1.2 mm.; diameter, 0.5 mm.

Genus ALVANIA Risso.

ALVANIA NEMO, new species.

Plate 5, fig. 3.

Shell small, elongate-ovate, yellowish white. Nuclear whorls one and one-half, well rounded, smooth. Postnuclear whorls inflated, strongly rounded, marked between the sutures by very regular, well developed, evenly spaced spiral cords, of which four occur upon the second and third, and 6 upon the penultimate turn. The space between the appressed summit and the first spiral cord is a little wider than those between the other cords. In addition to the spiral cords the whorls are marked by feeble incremental lines. Periphery of the last whorl inflated. Base moderately long, well rounded, narrowly umbilicated, marked with two, feeble, spiral cords and fine, incremental lines. Aperture broadly oval; posterior angle obtuse; outer lip thin, showing the external sculpture within; columella strongly curved, free, partly reflected over the umbilicus; parietal wall glazed with a thin callus.

The type, Cat. No. 187057a, U.S.N.M., comes from Port Alfred (Coll. No. 595). It has almost four postnuclear whorls, and measures: Length, 1.8 mm.; diameter, 1 mm.

The following four additional lots from Port Alfred are in the collection of the United States National Museum. Cat. No. 250403, two specimens (Coll. No. 1276). Cat. No. 250402, two specimens.

keels is almost flat. Periphery of the last whorl marked by a strong, spiral cord. Base well rounded, marked by three subequal and equally spaced, low, spiral cords. In addition to the spiral marking, the whorls are marked by numerous, very fine lines of growth. Aperture broadly ovate; posterior angle obtuse; outer lip thin, showing the external sculpture within; inner lip thin, slightly reflected; parietal wall covered with a thick callus which renders the peritreme complete.

The type, Cat. No. 250394, U.S.N.M., comes from Port Alfred (Coll. No. 1267). It has three postnuclear whorls, and measures: Length, 2.1 mm.; diameter, 1.3 mm.

ALVANIA ARGENTEA Sowerby.

Four lots of this species are in the collection of the United States National Museum, all from Port Alfred. Cat. No. 186820, two specimens (Coll. No. 186). Cat. No. 250393, one specimen (Coll. No. 1266). Cat. No. 250403a, one specimen (Coll. No. 1276). Cat. No. 252279, 25 specimens (Coll. No. 1588). In addition to these we have seen 15 specimens in Colonel Turton's collection (Coll. No. 1587), and 87 specimens in the same collection (Coll. No. 1588).

ALVANIA FENESTRATA Krauss.

Three lots of this species are in the collection of the United States National Museum, all from Port Alfred. Cat. No. 186818, five specimens (Coll. No. 184). Cat. No. 252278, 25 specimens (Coll. No. 1588). In addition to that we have seen 111 specimens which have been returned to Colonel Turton (Coll. No. 1587).

ALVANIA IMA, new species.

Plate 5, fig. 2.

Shell small, ovate, yellowish white. Nuclear whorls two, well rounded, smooth. Postnuclear whorls slightly rounded, marked by very regular, feeble, protractive axial ribs which are a little wider than the spaces that separate them. Of these ribs, 26 occur upon the first, 30 upon the second, and 32 upon the penultimate whorl. In addition to the ribs, the whorls are marked by a slender spiral cord at the summit, which renders the summit decidedly crenulated. A second spiral cord marks the periphery of the turns; the intercostal spaces between these spiral cords are wedge-shaped, the angle of the wedge being at the summit. Base somewhat inflated, well rounded, marked on the posterior two-thirds by six strongly incised spiral grooves, which make the spaces between them appear as broad, low rounded keels. Sutures strongly impressed. Aperture irregularly oval; outer lip moderately thick, showing the external sculpture within; inner lip almost straight, oblique; parietal wall covered with a thick callus.

●
RISSOINA EUCOSMIA, new species.

Plate 20, fig. 2.

Shell small, falcate, semitranslucent. Nuclear whorls a little more than one, smooth, well rounded. Postnuclear whorls high between the sutures, strongly shouldered at the summit, marked on the anterior half by strong, comma-shaped axial ribs, which are truncated posteriorly, tapering gently anteriorly and are lost before they reach the middle of the whorl. Of these ribs, 12 occur upon the first, 14 upon the second, 16 upon the third, and 18 upon the fourth and penultimate turn. In addition to these axial ribs the whorls are marked between the sutures by a smooth spiral cord, the posterior border of which marks the space between the sutures on the later turns. Sutures strongly channeled. Periphery of the last whorl marked by a strong spiral cord. Base moderately long, marked by two, equal and equally spaced, spiral cords, of which the last encircles the insertion of the columella. Aperture oval; outer lip thick, with a brown band immediately posterior to the spiral keel; inner lip very thick and appressed to the attenuated base; parietal wall covered by a moderately thick callus which renders the peritreme complete.

The type, Cat. No. 250395, U.S.N.M., comes from Port Alfred (Coll. No. 1268). It has five and a half postnuclear whorls, and measures: Length, 2.8 mm.; diameter, 1.1 mm.

RISSOINA, species?

Cat. No. 250372, U.S.N.M., contains the tips of two *Rissoinas*, from Port Alfred, too young to be determined (Coll. No. 1245).

Cat. No. 250400, U.S.N.M., contains a *Rissoina* from Port Alfred, which is different from any of the known species, but too poor to serve for a diagnosis (Coll. No. 1273).

RISSOINA (PHOSINELLA) PURA Gould.

Plate 5, fig. 10.

Alvania pura GOULD, Proc. Bost. Soc. Nat. Hist., vol. 7, p. 402, 1861.

Shell elongate-conic, white. Nuclear whorls two, well rounded, smooth. Postnuclear whorls well rounded, marked by almost vertical narrow axial ribs which are about one-half as wide as the spaces that separate them. Of these ribs 12 occur upon the first, 18 upon the second to fourth, 20 upon the fifth, 22 upon the sixth, and 26 upon the penultimate whorl. In addition to the axial ribs the whorls are marked by equal and equally spaced spiral cords which are almost as strong on the ribs, the junctions of the two forming strong, rounded tubercles. Of these cords, 2 occur upon the first, 3 upon the second to fourth, and 5 upon the remaining turns. The spaces

numerous, decidedly retractive, incremental lines and exceedingly fine spiral striations. Sutures moderately impressed; periphery of the last whorl inflated, well rounded; base short, narrowly umbilicated, well rounded. Aperture subcircular; posterior angle obtuse; outer lip thin; inner lip strongly curved and partly reflected over the umbilicus, continuing as a thin callus over the parietal wall.

The type and seven specimens, Cat. No. 187072, U.S.N.M., came from Port Alfred (Coll. No. 610). The type has a little more than five whorls, and measures: Length, 2.1 mm.; diameter, 1.1 mm. Cat. No. 227745, U.S.N.M., contains three specimens from the same locality (Coll. No. 840). Another specimen, Cat. No. 250428, U.S.N.M., also comes from Port Alfred (Coll. No. 1301).

MICROSETIA HELGA, new species.

Plate 6, fig. 3.

Shell small, elongate-conic, yellowish white. Nuclear whorls not differentiated from the succeeding turns; all the whorls well rounded, appressed at the summit, through which the preceding whorl shines, which lends the shell the aspect of having a double suture. Sutures moderately impressed. Periphery of the last whorl somewhat inflated, well rounded. Base moderately long, narrowly umbilicated, well rounded; entire surface of spire and base marked by exceedingly fine incremental lines only. Aperture oval; posterior angle obtuse; outer lip thick; inner lip strongly curved and quite thick, reflected over the umbilicus; parietal wall covered with a thick callus.

The type and another specimen, Cat. No. 187056, U.S.N.M., came from Port Alfred (Coll. No. 594). The type has six whorls and measures: Length, 2.7 mm.; diameter, 1.5 mm. Cat. No. 250423, U.S.N.M., contains another specimen from Port Alfred (Coll. No. 1296).

MICROSETIA IRMA, new species.

Plate 21, fig. 9.

Shell elongate-ovate, very thin, transparent. Nuclear whorls not differentiated from the postnuclear turns. Postnuclear whorls well rounded, appressed at the summit, marked by exceedingly fine, retractive lines of growth and closely spaced, microscopic spiral striations. Sutures moderately constricted. Periphery of the last whorl strongly rounded. Base moderately long, strongly rounded, very narrowly umbilicated. Aperture ovate; posterior angle acute; outer lip very thin; inner lip very thin, evenly curved and slightly reflected; parietal wall glazed with a thin callus.

The type and another specimen, Cat. No. 249724, U.S.N.M., come from Port Alfred (Coll. No. 996). The type has four whorls, and measures: Length, 1.6 mm.; diameter, .1 mm.

JEFFREYSIA CAPENSIS Sowerby.

Seven lots of this species are in the collection of the United States National Museum, all from Port Alfred. Cat. No. 187059, six specimens (Coll. No. 597). Cat. No. 187068, one specimen (Coll. No. 606). Cat. No. 186812*a*, one specimen (Coll. No. 178*a*). Cat. No. 187063*a*, two specimens (Coll. No. 601). Cat. No. 250431, two specimens (Coll. No. 1304). Cat. No. 249723, one specimen (Coll. No. 995). In addition to these we have seen 67 specimens in Colonel Turton's collection. (Coll. No. 1592).

Family ASSIMINEIDAE.

Genus ASSIMINEA Leach.

ASSIMINEA OVATA Krauss.

Three lots of this species are in the collection of the United States National Museum, from Port Alfred, Cat. No. 186814*b*, one specimen (Coll. No. 180). Cat. No. 227735, three specimens (Coll. No. 830). Cat. 249728, two specimens (Coll. No. 1000).

ASSIMINEA UMLAASIANA Smith.

The United States National Museum contains three lots of this species from Port Alfred. Cat. No. 186814, three specimens (Coll. No. 180). Cat. No. 186815, six specimens (Coll. No. 181). Cat. No. 227734, eight specimens (Coll. No. 829). In addition to these I have seen 78 specimens from Port Alfred which have been returned to Colonel Turton (Coll. No. 1596).

ASSIMINEA CAPENSIS, new species.

Plate 6, fig. 9.

Shell broadly conic, thick, light brown. Nuclear whorls not differentiated from the postnuclear turns. Postnuclear whorls well rounded, feebly shouldered at the summit, marked by decidedly retractive lines of growth and exceedingly fine spiral striations. Sutures moderately constricted. Periphery of the last whorl strongly inflated, obscurely angulate. Base short, well rounded, marked like the spire. Aperture very large, irregularly ovate; posterior angle acute; outer lip thick within, thin at the edge; inner lip thick, appressed, strongly curved, continuous with the thick parietal callus.

The type, Cat. No. 186814*a*, U.S.N.M., comes from Port Alfred (Coll. No. 180). It has six whorls, and measures: Length, 6 mm.; diameter, 3.5 mm. Cat. No. 227824 U.S.N.M., contains two specimens from the same locality (Coll. No. 829*a*). Another specimen, Cat. No. 250414, U.S.N.M., is from the same locality (Coll. No. 1287).

CREPIDULA LENTIGINOSA Sowerby.

Cat. No. 98051, U.S.N.M., three specimens from Albany. Cat. No. 19173, U.S.N.M., one specimen from Port Elizabeth. Cat. No. 186826a, U.S.N.M., one specimen from Port Alfred (Coll. No. 192). Cat. No. 249786, U.S.N.M., four specimens from the same locality (Coll. No. 1058).

Family LAMELLARIIDAE.

Genus LAMELLARIA Montagu.

LAMELLARIA PERSPICUA Linnaeus.

One specimen, Cat. No. 250530, U.S.N.M., from Port Alfred (Coll. No. 1403). Cat. No. 250532, U.S.N.M., one young specimen from the same place (Coll. No. 1405). Cat. No. 249768, U.S.N.M., three young specimens from the same locality (Coll. 1040).

Family NATICIDAE.

Genus NATICA Scopoli.

NATICA IMPERFORATA Gray.

Cat. No. 98024, U.S.N.M., twelve specimens from Kassouga, Albany. Cat. No. 21800, U.S.N.M., one specimen from Algoa Bay. Cat. No. 186829, U.S.N.M., three specimens from Port Alfred (Coll. No. 195).

NATICA STIMPSONI, new species.

Plate 13, figs. 5, 8, 11.

Shell large, subglobose, imperforate, bluish white, speckled with numerous dots of brown over the entire surface, excepting a narrow band on the shoulder of the whorls and another a little anterior to the periphery, which are marked by a series of quite regularly spaced triangles, the apexes of which point forward. The whorls are inflated, slopingly shouldered at the summit, the rest well rounded, marked by numerous strong lines of growth, and fine spiral lirations. Periphery and base of the last whorl well rounded, marked like the spire. Aperture large, oval; outer lip thin; inner lip thick, curved and strongly reflected over the umbilical area; parietal wall covered with a very thick callus, having a notch a little nearer the posterior angle of the aperture than its junction with the inner lip.

The type, Cat. No. 93, U.S.N.M., was collected by William Stimpson on the North Pacific Exploring Expedition at Simons Bay, Cape of Good Hope. It has five and one-half whorls, and measures: Length, 38.5 mm.; diameter, 36 mm.

NATICA, species?

Cat. No. 187082, U.S.N.M., three poor specimens from Port Alfred which I am unable to refer to any known form (Coll. No. 624). Cat. No. 249750, U.S.N.M., contains two additional specimens, in an equally poor condition, from the same place (Coll. No. 1022).

The type and another specimen of this species, Cat. No. 46445, U.S.N.M., come from the Cape of Good Hope. The type has four and one-half whorls, and measures: Length, 11.3 mm.; diameter, 11 mm. Cat. No. 249753, U.S.N.M., contains another specimen from Port Alfred (Coll. No. 1025).

NATICA NAPUS Smith.

Cat. No. 186832, U.S.N.M., contains one specimen from Port Alfred (Coll. No. 198).

NATICA DECIPIENS Smith.

Cat. No. 186831, U.S.N.M., contains two specimens from Port Alfred (Coll. No. 197).

NATICA QUEKETTI Sowerby.

Cat. No. 46445*b*, U.S.N.M., one specimen from the Cape of Good Hope.

NATICA, species?

Cat. No. 187084, U.S.N.M., contains three specimens from Port Alfred (Coll. No. 626), which we are unable to refer to any of the known species, but they are too worn to permit a proper diagnosis. Cat. No. 250485, U.S.N.M., contains one specimen from the same locality in an equally poor condition (Coll. No. 1358). Cat. No. 249751, U.S.N.M., another specimen also in poor condition (Coll. No. 1023).

NATICA NEMO, new species.

Plate 13, figs. 6, 9, 12.

Shell subglobose, narrowly umbilicated, moderately elevated, uniformly cream colored. Nuclear whorls two and one-third, moderately well rounded, smooth. Postnuclear whorls well rounded, marked by numerous, very decided notchings, which are strongest near the summit, weakening gradually as they pass over the whorls; on the early whorls they extend to the suture. Suture feebly impressed. Periphery of the last whorl well rounded. Base well rounded, narrowly umbilicated. The periphery and the base are marked by the feeble continuations of the impressed lines. The umbilicus is almost closed by a strong, spiral callus, which occupies the middle of the umbilical wall. The callus on the parietal wall is interrupted at the posterior termination of the spiral umbilical callus where a deep notch is present; outer lip thin at the edge, colored very light brown within.

The type has three postnuclear whorls, and the whole shell measures: Length, 14.2 mm.; diameter, 13.8 mm. It comes from Port Alfred, and is Cat. No. 187083, U.S.N.M. (Coll. No. 625).

on the succeeding. These riblets are about one-third as wide as the spaces that separate them on the first turn, while on the last turn the intercostal spaces are only a trifle wider than the riblets. The spaces between the riblets are crossed by numerous, very fine spiral striations. Base gradually, deeply umbilicated. The umbilicus marked at its outer edge by a strong carina. The entire surface of the base is marked by the continuation of the axial riblets, which pass undiminished over the base, into the umbilicus. The base appears slightly excavated immediately posterior to this carina. The exterior umbilical wall is concave and marked by the continuation of the axial riblets from aperture; outer lip thickened at the edge; inner lip sinuous, slightly reflected, and continuing over the parietal wall, rendering the peritreme complete.

The type, Cat. No. 249769, U.S.N.M., comes from Port Alfred (Coll. No. 1041). It measures: Altitude, 3 mm. The greatest measurement obtainable while lying on the aperture is 3 mm. Another specimen, Cat. No. 250534, U.S.N.M. (Coll. No. 1407), comes from the same place.

Family ACMAEIDAE.

Genus ACMAEA Eschscholtz.

ACMAEA ROSEORADIATA Smith.

Cat. No. 19319, U.S.N.M., one specimen from the Cape of Good Hope. Cat. No. 187133, U.S.N.M., two specimens from Port Alfred (Coll. No. 679). Cat. No. 250573, U.S.N.M., contains another specimen from the same locality (Coll. No. 1446).

Family PATELLIDAE.

Genus PATELLA Linnaeus.

PATELLA GRANATINA Linnaeus.

The United States National Museum contains eight lots of this species from the Cape of Good Hope, as follows: Cat. No. 7586, four specimens collected by William Stimpson on the North Pacific Exploring Expedition; Cat. No. 7587, ten specimens; Cat. No. 16615, two specimens; Cat. No. 17347, two specimens; Cat. No. 89797, three specimens; Cat. No. 89798, one specimen; Cat. No. 103886, four specimens; Cat. No. 128388, two specimens. Cat. No. 184355, U.S.N.M., one specimen from Cape Town. Cat. No. 186902, U.S.N.M., one specimen from Port Alfred (Coll. No. 272).

PATELLA LONGICOSTA Lamarck.

Cat. No. 109, U.S.N.M., two specimens collected by William Stimpson on the North Pacific Exploring Expedition at the Cape of Good Hope. Cat. No. 89835, U.S.N.M., two specimens from the Cape of Good Hope. Cat. No. 186901, U.S.N.M., three specimens from Port

PATELLA CONSPICUA Philippi.

Cat. No. 17345, U.S.N.M., four specimens from the Cape of Good Hope. Cat. No. 36643, U.S.N.M., two specimens from South Africa without specific locality. Cat. No. 249896, U.S.N.M., contains a specimen from Port Alfred (Coll. No. 1168).

PATELLA ARGENVILLEI Krauss.

Cat. No. 125367, U.S.N.M., three specimens collected by the United States Eclipse Expedition at Cape Town. Cat. No. 186899, U.S.N.M., two specimens from Port Alfred (Coll. No. 269). Cat. No. 227795, U.S.N.M., four young specimens of this species from the same locality (Coll. No. 890).

PATELLA VARIABILIS Krauss.

Cat. No. 17351, U.S.N.M., one specimen from the Cape of Good Hope. In addition to this, the United States National Museum contains four lots from Port Alfred, as follows: Cat. No. 186895, two specimens (Coll. No. 265); Cat. No. 187130 α , one specimen (Coll. No. 676 α); Cat. No. 227788, four specimens (Coll. No. 883); Cat. No. 227789, four specimens (Coll. No. 884). In addition to these, we have seen two lots in Colonel Turton's collection, 20 specimens, Coll. No. 1609, and ten specimens, Coll. No. 1610.

PATELLA COMPRESSA Lamarck.

Cat. No. 17349, U.S.N.M., three specimens from the Cape of Good Hope. Cat. No. 36646, U.S.N.M., three specimens collected by William Stimpson on the North Pacific Exploring Expedition, at the Cape of Good Hope. Cat. No. 128374, U.S.N.M., four specimens from the Cape of Good Hope. Cat. No. 249784, U.S.N.M., contains three young specimens from Port Alfred (Coll. No. 1056).

PATELLA MINIATA Born.

Cat. No. 32014, U.S.N.M., five specimens from the Cape of Good Hope. Cat. No. 90620, U.S.N.M., two specimens from the same place. Cat. No. 128380, U.S.N.M., two specimens from the same locality. In addition to these, the United States National Museum contains four lots from Port Alfred; Cat. No. 186897, four specimens (Coll. No. 267); Cat. No. 227790, six specimens (Coll. No. 885); Cat. No. 227791, six specimens (Coll. No. 886); Cat. No. 249783, two specimens (Coll. No. 1055). Cat. No. 253740, U.S.N.M., are specimens from Tafalbi, South Africa.

PATELLA COCHLEAR Born.

Cat. No. 17344, U.S.N.M., six specimens from the Cape of Good Hope. Cat. No. 90621, U.S.N.M., one specimen from the same place. In addition to these, the United States National Museum contains four lots from Port Alfred, as follows: Cat. No. 186903, one specimen

Hope. Cat. No. 97997, U.S.N.M., seven specimens from Knysna, South Africa. Cat. No. 98015, U.S.N.M., thirty-seven specimens from Kleinemonnd, South Africa. Cat. No. 186868, U.S.N.M., four specimens from Port Alfred (Coll. No. 238). Cat. No. 187093, U.S.N.M., three specimens from the same locality (Coll. No. 637). Cat. No. 250505, U.S.N.M., seventeen specimens from the same place (Coll. No. 1378). Cat. No. 272128, U.S.N.M., two specimens from South Africa. Cat. No. 272944, U.S.N.M., three specimens from Port Natal.

PHASIANELLA ELONGATA Krauss.

Cat. No. 186867, U.S.N.M., five specimens from Port Alfred (Coll. No. 237). Cat. No. 187094, U.S.N.M., one specimen from the same locality (Coll. No. 638).

PHASIANELLA CAPENSIS Dunker.

Cat. No. 169, U.S.N.M., two specimens collected by William Stimpson on the North Pacific Exploring Expedition, at Simons Bay, Cape of Good Hope. Cat. No. 43122a, U.S.N.M., six specimens from the Cape of Good Hope. Cat. No. 89237, U.S.N.M., eight specimens from the Cape of Good Hope.

PHASIANELLA AFRICANA, new species.

Plate 10, fig. 2.

Shell small, very elongate-conic; ground color yellowish, upon which are superimposed numerous irregular blotches and flammulations of varying shades of brown, which usually are preceded by a white patch. Frequently there is a row of distantly spaced, light blue dots near the suture. Nuclear whorls two, well rounded, forming a depressed, flattened apex. Postnuclear whorls well rounded, appressed at the summit, and marked by exceedingly fine lines of growth only. Periphery of last whorl rounded. Base rather short, well rounded. Aperture almost circular; outer lip thin, showing the exterior markings within; inner lip well curved and slightly reflected over the base; parietal wall covered with a thin callus.

The type and two specimens, Cat. No. 186870, U.S.N.M., come from Port Alfred (Coll. No. 240). The type has three and one-half post nuclear whorls and measures: Length, 3.5 mm.; diameter, 2.7 mm.

Related to *Phasianella capensis*, but at once distinguished from it by its minute size.

Three additional lots from Port Alfred are in the collection of the United States National Museum, Cat. No. 250506, three specimens (Coll. No. 1379); Cat. No. 250507, one specimen (Coll. No. 1380); Cat. No. 249774, three specimens (Coll. No. 1046).

PHASIANELLA BICARINATA Dunker.

Cat. No. 186869, U.S.N.M., three specimens from Port Alfred (Coll. No. 239).

tuberculated. In addition to the above sculpture, the entire surface of the post-nuclear whorls is marked by very many, narrow, lamellar, axial threads, which pass over the grooves between the spiral cords and also the tubercles of the ridges. Sutures moderately impressed. Periphery rendered feebly angulated by a spiral cord. Base short, deeply and broadly umbilicated, marked with eight equal and equally spaced, strong, nodulous spiral cords and an equal number of weak nodulous spiral threads which occur half-way between the strong cords. One of these slender threads also occurs between the strong peripheral cord and the first basal. In addition to the above, the entire surface is marked by the continuations of the slender lamellar riblets. No ribs are apparent within the umbilicus. Aperture rhomboidal; outer lip rendered sinuous by the external sculpture, which is also true of the basal lip; inner lip oblique, straight; parietal wall not covered with a callus.

The type, Cat. No. 186871*a*, U.S.N.M., comes from Port Alfred (Coll. No. 241*a*). The type has a little more than two and one-half post-nuclear whorls, and measures: Altitude, 7.2 mm.; greater diameter, 8.7 mm.

CLANCULUS WALTONAE Sowerby.

Cat. No. 187105, U.S.N.M., one specimen from Port Alfred (Coll. No. 650). Cat. No. 227779, U.S.N.M., one specimen from the same locality (Coll. No. 874).

CLANCULUS MERULOIDES Krauss.

Cat. No. 18680, U.S.N.M., one specimen from Cape of Good Hope.

Genus OXYSTELE Philippi.

OXYSTELE MERULA Lamarck.

Cat. No. 104, U.S.N.M., three specimens collected by William Stimpson on the North Pacific Exploring Expedition at the Cape of Good Hope. Cat. No. 36801, U.S.N.M., one specimen from the Cape of Good Hope. Cat. No. 90152, U.S.N.M., two specimens from the same locality. Cat. No. 98008, U.S.N.M., three specimens from the Peddie coast, South Africa. Cat. No. 186881, U.S.N.M., three specimens from Port Alfred (Coll. No. 251).

OXYSTELE TIGRINA Anton.

Cat. No. 98, U.S.N.M., two specimens collected by William Stimpson on the North Pacific Exploring Expedition at the Cape of Good Hope. Cat. No. 104*a*, U.S.N.M., six specimens collected by the same party at the same place. Cat. No. 98022, U.S.N.M., seven specimens from Peddie and Albany, South Africa. Cat. No. 186880, U.S.N.M., three specimens from Port Alfred (Coll. No. 250).

Cat. No. 250491, U.S.N.M., three young specimens from the same locality (Coll. No. 1364).

specimens (Coll. No. 1362); Cat. No. 250490, four specimens (Coll. No. 1363); Cat. No. 250492, four young specimens (Coll. No. 1365); Cat. No. 250493, one specimen (Coll. No. 1366); Cat. No. 250494, one specimen (Coll. No. 1367); Cat. No. 250496, four young specimens (Coll. No. 1369).

OXYSTELE TABULARIS Krauss.

Cat. No. 113*a*, U.S.N.M., one specimen collected by William Stimpson on the North Pacific Exploring Expedition at the Cape of Good Hope. Cat. No. 31697, U.S.N.M., five specimens from the Cape of Good Hope. Cat. No. 98009, U.S.N.M., five specimens from Kassaouga, South Africa. Cat. No. 186879, U.S.N.M., three specimens from Port Alfred (Coll. No. 249).

Genus UMBONIUM Link.

UMBONIUM VESTIARIUM Linnaeus.

Cat. No. 59857, U.S.N.M., contains twelve specimens from the Cape of Good Hope.

Genus GIBBULA Risso.

GIBBULA LOCULOSA Gould.

Plate 23, figs. 1, 2, 3.

Gibbula loculosa GOULD, Proc. Bost. Soc. Nat. Hist., vol. 8, p. 21, 1861.

Shell helicoid, light brown, with three large white spots between the suture and the periphery of each whorl, dividing the whorl into equal areas. There are also small spots darker than the general coloration which are especially apparent on the strong spiral cords which they divide into equal alternating light and dark areas. These small markings give the base a checker-board appearance. Nuclear whorls small, well rounded, the first smooth, the second provided with four feeble spiral threads. Postnuclear whorls marked by strong sublamellar spiral keels, of which four occur upon the first, and five upon the second. On the next turn an intercalated cord occurs between all the strong keels excepting the space between the third and fourth which has two. On the last turn two cords occur between the first and second keels, one between the second and third, three between the third and fourth and fourth and fifth. In addition to the spiral sculpture the whorls are marked on the spire by numerous closely spaced, decidedly retractorily slanting, thin, lamellar, axial riblets. Suture strongly impressed. Periphery rendered strongly angulated by a spiral keel, between which and the first suprapерipheral keel two slender cords are presented. Base well rounded, narrowly umbilicated, marked by a series of more or less regularly alternating strong and less strong spiral cords of which there are twenty-

ture subcircular, oblique; outer lip thin at the edge where it is rendered sinuous by the strong spiral cords; columella moderately stout, well curved; parietal wall covered with a thin callus.

Gould's cotypes, two specimens, Cat. No. 222a, U.S.N.M., were collected by William Stimpson on the North Pacific Exploring Expedition at False Bay, Cape of Good Hope. The largest of these, the specimen figured, has almost four postnuclear whorls, and measures: Altitude, 5.6 mm.; greater diameter, 5.7 mm.; lesser diameter, 5 mm. Cat. No. 187110, U.S.N.M., one specimen from Port Alfred (Coll. No. 656).

GIBBULA THALIA, new species.

Plate 30, figs. 1, 2, 3.

Shell small, white, flaked with large patches of brown, sprinkled irregularly with blotches of carmine. Nuclear whorls two and one-half, well rounded, smooth. Postnuclear whorls strongly rounded, marked with five strong, equal, spiral keels between the sutures, of which the first is at the summit, while the last forms the peripheral keel. The spaces between the spiral keels are a little wider than the keels. In addition to the spiral sculpture the whorls are marked by very numerous, decidedly retractive, axial threads. Sutures strongly impressed. Base moderately long, well rounded, strongly, openly umbilicated, marked by nine, equal and equally spaced, depressed spiral cords, which are almost double the width of the spaces that separate them. In addition to these spiral cords the base is marked by the continuations of the axial threads. Inside of umbilicus smooth. Aperture subcircular, oblique; outer lip rendered decidedly sinuous at the edge by the external sculpture; inner lip strongly curved and slightly reflected.

The type, Cat. No. 187112, U.S.N.M., comes from Port Alfred (Coll. No. 658). It has three postnuclear whorls, and measures: Altitude, 4.5 mm.; greater diameter, 5.5 mm.

GIBBULA HERA, new species.

Plate 26, figs. 1, 2, 3.

Shell subglobose, very dark brown, mottled and streaked with yellow horn color. Nuclear whorls two and one-half, well rounded, smooth. Postnuclear whorls well rounded, decidedly shouldered at the summit, marked between this and the suture by broad, depressed, spiral cords, of which five occur upon the first, six upon the second, while the last whorl has eight, owing to splitting of the primary cords. The spaces that separate the cords are less than one-half the width of the cords and are very feebly impressed. In addition to the above sculpture the spire is marked with feeble, decidedly retractive lines of growth which pass over the cords and grooves. Periphery of the last whorl subangulated, marked by a slender spiral cord.

bands which have the same arrangement as the spiral sculpture on the spire. The umbilicus is without any sculpture. Entire surface of spire and base marked by exceedingly fine lines of growth which are decidedly retractorily slanted on the spire. Aperture subquadrate, decidedly oblique; outer and basal lips forming an obtuse angle at their junction; inner lip thick, decidedly sinuous; parietal wall glazed with a thin callus.

The type, Cat. No. 102730, U.S.N.M., comes from the Cape of Good Hope. It has four postnuclear whorls, and measures: Altitude, 6 mm.; greater diameter, 6.4 mm. Cat. No. 43011a, U.S.N.M., contains one specimen from the Cape of Good Hope.

GIBBULA MEDUSA, new species.

Plate 29, figs. 7, 8, 9.

Shell depressed conic. Nuclear whorls white. Postnuclear whorls marked with broad axial bands of brown which may extend entirely across the whorls, or may be interrupted in the middle. These bands of brown are separated by spaces of a light sage green, which are about as wide as the brown bands on the posterior half of the whorls between the sutures; the green area fading to yellow anteriorly. These light areas are speckled with small dots of chestnut and clouded in places with pale brown. The base is pale green, profusely spotted with dots and blotches of red. Nuclear whorls two and a quarter, depressed helicoid. Postnuclear whorls evenly rounded, marked with two, broad, spiral bands, which extend over the anterior half of the whorls between the sutures, where they appear as two turns of a bandage. The periphery of the last whorl is marked by a moderately strong spiral keel which renders it angulated. Sutures feebly constricted. Base short, well rounded, broadly umbilicated; marked by seven broad low bands which grow successively wider from the umbilical edge toward the periphery. These bands appear as a series of turns of a bandage. Umbilicus without any spiral sculpture. The entire surface of spire and base is marked with faint retractive lines of growth. Aperture very oblique, oval; outer and basal lips thin, showing the external markings within; inner lip quite thick, evenly curved; parietal wall glazed with a very thin callus.

The type and two specimens of this species, Cat. No. 43011, U.S.N.M., come from the Cape of Good Hope. The type has two and one-half postnuclear whorls, and measures: Altitude, 3.5 mm.; greater diameter, 5 mm.

GIBBULA TRYONI Pilsbry.

Cat. No. 186873, U.S.N.M., three specimens from Port Alfred (Coll. No. 243).

rounded spiral cords on the first two postnuclear whorls and as broad flattened cords on the last turn. Eight of these spiral cords appear on the first, seven on the second, while on the last turn 12, including the peripheral cord, appear between the periphery and the summit, those nearest the periphery on this whorl being much narrower than on the posterior portion of the whorl. Sutures well marked. Periphery of the last whorl very strongly angulated. Base very short, slightly concave, broadly, openly umbilicated, marked by 12 depressed, rounded spiral cords of somewhat varying width. The entire surface of the shell is marked by slender lines of growth which extend over the base and into the umbilicus. Aperture very oblique, large; outer lip thin, showing the external sculpture within; inner lip almost vertical, sinuous, reflected over and appressed to the preceding whorl.

The type and another specimen, Cat. No. 187111, U.S.N.M., come from Port Alfred (Coll. No. 657). The type has three and one-half postnuclear whorls, and measures: Altitude, 3.5 mm.; greater diameter, 5 mm.

Genus SOLARIELLA Wood.

SOLARIELLA FUSCOMACULATA Smith.

Cat. No. 187099, U.S.N.M., two specimens from Port Alfred (Coll. No. 643).

SOLARIELLA, species?

Cat. No. 187100, U.S.N.M., contains three specimens from Port Alfred (Coll. No. 644), which belong to this genus, but which are too worn to be properly identified. Cat. No. 250525, U.S.N.M., contains two additional specimens of this species, but also too worn to serve for diagnosis (Coll. No. 1398), from Port Alfred.

Genus CALLIOSTOMA Swainson.

CALLIOSTOMA EUCOSMIA, new species.

Plate 25, figs. 1, 2, 3.

Shell broadly conic, of wax ground-color, variously mottled and clouded with patches of white and brown; on the spire there is also a narrow purple band which extends over the periphery and a little posterior to it on the early whorls. On the base, particularly on the area adjacent to the umbilical region, brown flakes alternating with flakes of white, form a chain-like pattern. Nuclear whorls about one and one-half, well rounded, smooth. Postnuclear whorls moderately rounded, marked with subequal, and subequally spaced, granulose, spiral cords, of which 4 occur upon the first, 5 upon the second, 7 upon the third, 12 upon the fourth, and 23 upon the last whorl between the sutures. These cords are about as wide as the spaces that separate them. The tubercles on them are elongated, their long axes coincid-

Family VITRINELLIDAE.

Genus VITRINELLA C. B. Adams.

VITRINELLA RIFACA, new species.

Plate 37, figs. 1, 2, 3.

Shell small, planorboid, cream yellow. Nuclear whorls two, well rounded, smooth. Postnuclear whorls one and one-fifth, well rounded, marked by lines of growth only. Sutures strongly impressed. Periphery of the last whorl well rounded. Base very broadly umbilicated, showing all the whorls within, the individual whorls well rounded, smooth excepting the lines of growth. Aperture slightly oblique, subcircular, thin at the edge, thickened only at the parietal wall.

The type, Cat. No. 249775, U.S.N.M., comes from Port Alfred (Coll. No. 1047). It measures: Altitude, 0.5 mm.; greater diameter, 1.8 mm.

VITRINELLA CIFARA, new species.

Plate 37, figs. 7, 8, 9.

Shell small, depressed helicoid, translucent. Nuclear whorls a little more than two, well rounded, marked by fine lines of growth only. Postnuclear whorls well rounded, marked by strong lines of growth. Suture strongly impressed, almost channeled. Periphery strongly rounded. Base openly umbilicated, showing all the whorls within, which are well rounded and marked by lines of growth only. Aperture oblique, oval; outer lip thin; inner lip strongly curved; parietal wall covered with a thick callus which renders the peritreme complete.

The type, Cat. No. 249767, U.S.N.M., comes from Port Alfred (Coll. No. 1039). It has a little more than one postnuclear turn, and measures: Altitude, 0.5 mm.; greater diameter, 1.4 mm.

This species closely resembles the last, but is much more elevated, less widely umbilicated, and the whorls are bent more downward than in the preceding species.

VITRINELLA FICARA, new species.

Plate 34, figs. 1, 2, 3.

Shell rather large, planorboid, yellowish. Nuclear whorls one and one-half, very large, well rounded, smooth. Succeeding turns well rounded, marked by numerous very fine thread-like ribs, the spaces between which are marked by numerous fine spiral striations. Sutures strongly constricted. Periphery strongly rounded. Base openly umbilicated, showing all the whorls within, which are less rounded and marked like the spire. Aperture oblique, subcircular.

The type, Cat. No. 349775a, U.S.N.M., comes from Port Alfred (Coll. No. 1047a). It has a little more than one and one-half post-

a retractive slant. These ribs become attenuated toward the summit to which they do not quite extend. They are about one-third as broad as the spaces that separate them. These spaces are marked near the periphery by a few, feebly expressed, fine, spiral lirations. Base sculpture similar to the upper surface except that only a very small portion of the smooth nuclear whorl is apparent. The ribs here decrease suddenly in size as they approach the inferior suture, and vanish just before reaching it. Aperture oblique, subcircular; outer lip thin, showing the external sculpture within; inner lip decidedly curved and somewhat reflected; parietal wall covered with a thick callus.

The type, Cat. No. 250519, U.S.N.M., comes from Port Alfred (Coll. No. 1392). It shows a little more than the last whorl, and measures: Altitude, 0.8 mm.; greater diameter, 1.8 mm.

Cat. No. 250518 contains another specimen from the same locality (Coll. No. 1391).

PONDORBIS, new genus.

Shell minute, dextral, depressed helicoid. Nuclear whorls smooth. Postnuclear whorls well rounded, ornamented with distantly spaced, very regular, sublamellar ribs.

Type.—*Pondorbis alfredensis*.

PONDORBIS ALFREDENSIS, new species.

Plate 36, figs. 1, 2, 3.

Shell minute, depressed helicoid, yellowish white. Nuclear whorls a little more than one, smooth, well rounded. Postnuclear whorls well rounded, marked at regularly spaced intervals by very regular, sublamellar, protractively curved, axial ribs, of which seventeen occur upon the first whorl, while the one-fifth of a whorl beyond the first postnuclear whorl contains ten riblets which are less strongly developed, and more closely spaced. Periphery strongly curved. Base well rounded, openly umbilicated, showing all the whorls within, marked like the spire. Aperture circular; peristome complete.

The type, Cat. No. 250557, U.S.N.M., comes from Port Alfred (Coll. No. 1430). It measures: Altitude, 0.2 mm.; greater diameter, 0.8 mm.

Genus DISCOPSIS de Folin.

DISCOPSIS PLANULATA Sowerby.

Cat. No. 186883, U.S.N.M., contains two specimens from Port Alfred (Coll. No. 253). Cat. No. 227784, U.S.N.M., three specimens from the same locality (Coll. No. 879). Cat. No. 227785, U.S.N.M., three specimens from the same source (Coll. No. 880).

Hope. Cat. No. 16671, U.S.N.M., two specimens from the Cape of Good Hope. Cat. No. 42848, U.S.N.M., one specimen from the Cape of Good Hope. Cat. No. 89089, U.S.N.M., one specimen from the Cape of Good Hope. Cat. No. 98004, U.S.N.M., two specimens from Albany. Cat. No. 186885, U.S.N.M., one specimen from Port Alfred (Coll. No. 255). Cat. No. 227786, U.S.N.M., three specimens from the same locality (Coll. No. 881).

HALIOTIS PERTUSA Reeve.

Cat. No. 33, U.S.N.M., three specimens collected by William Stimpson on the North Pacific Exploring Expedition at the Cape of Good Hope.

HALIOTIS PARVA Linnaeus.

Cat. No. 187116, U.S.N.M., two specimens from Port Alfred (Coll. No. 662). Cat. No. 187117, U.S.N.M., one specimen from the same place (Coll. No. 663). Cat. No. 176, U.S.N.M., one specimen collected by William Stimpson on the North Pacific Exploring Expedition at False Bay. Cat. No. 16970, U.S.N.M., one specimen from Cape of Good Hope. Collected by Carpenter.

HALIOTIS ALFREDENSIS, new species.

Plate 24, figs. 7, 8.

Shell elongate-ovate, irregularly mottled with chestnut brown and very pale olive buff flecks and dottings. The space between the base and the perforations is brown, with narrow radiating bands of pale olive buff which are about one-fourth as wide as the brown bands. The sculpture consists of fine, radiating, decidedly retractorily slanting threads on the early whorls, which become somewhat coarser, wider, and less sharply defined on the last half turn, and numerous fine spiral lirations which become more or less wavy anteriorly. The space between the perforations and the base is slightly concave on the posterior half and well rounded on the anterior half, and marked by the continuation of the lines of growth and wavy spiral striations. The nacre of the interior has a rosy flush, and a weak red wash within the spire. The spiral sculpture is apparent on the inside. This shell has the shape of *Haliotis midae*, but lacks the rugose sculpture of the exterior, the sculpture resembling more that of *Haliotis pertusa*, but differing from this in being much finer and more regular.

The type, Cat. No. 250517, U.S.N.M., comes from Port Alfred (Coll. No. 1390). It measures: Altitude, 12 mm.; length, 55 mm.; diameter, 39.5 mm.

Family SCISSURELLIDAE.

Genus SCISSURELLA Orbigny.

SCISSURELLA JUCUNDA Smith.

Three lots of this species are in the collection of the United States National Museum, all from Port Alfred. They are: Cat. No. 187097,

Genus **FISSURIDEA** Swainson.**FISSURIDEA ELIZABETHAE** Smith.

Cat. No. 186891, U.S.N.M., one specimen from Port Alfred (Coll. No. 261).

FISSURIDEA SPRETA Smith.

Cat. No. 186893, U.S.N.M., one specimen from Port Alfred (Coll. No. 263).

FISSURIDEA ELEVATA Dunker.

Cat. No. 98040, U.S.N.M., two specimens from Peddie or Albany, South Africa. Cat. No. 186894, U.S.N.M., one specimen from Port Alfred (Coll. No. 264).

FISSURIDEA CALYCVLATA Sowerby.

Cat. No. 98039, U.S.N.M., four specimens from Peddie, South Africa. Cat. No. 186892, U.S.N.M., one specimen from Port Alfred (Coll. No. 262). Cat. No. 249778, U.S.N.M., three young specimens from the same place (Coll. No. 1050). Cat. No. 249779, U.S.N.M., three additional young specimens from the same locality (Coll. No. 1051).

FISSURIDEA AUSTRALIS Krauss.

Cat. No. 227801, U.S.N.M., two specimens from Port Alfred (Coll. No. 896).

FISSURIDEA PARVIFORATA Smith.

Cat. No. 187134, U.S.N.M., three specimens from Port Alfred (Coll. No. 680). Cat. No. 250569, U.S.N.M., an additional specimen from Port Alfred (Coll. No. 1442).

Genus **PUNCTURELLA** Lowe.**PUNCTURELLA AFRICANA**, new species.

Plate 30, figs. 4, 5.

Shell small, white, exceedingly delicate. The nucleus consisting of a little more than one whorl, the coil resting on the left side of the postnuclear portion of the shell. The postnuclear part of the shell increases very rapidly in size, the sides being marked by about 40 thread-like radial riblets which are a little more densely spaced on the anterior portion. These are crossed almost at right angles by a second series of raised threads which equal the first in strength and spacing, thus lending the surface a finely reticulated aspect. The plug filling the notch is transversely notched. The shell is so thin that all the external markings are seen within.

The type, Cat. No. 187135, U.S.N.M., comes from Port Alfred (Coll. No. 681). It measures: Altitude, 1.1 mm.; long diameter, 1.9 mm.; transverse diameter, 1.3 mm.

mens (Coll. No. 1484); Cat. No. 250612, one specimen (Coll. No. 1485); Cat. No. 250613, one specimen (Coll. No. 1486); Cat. No. 250614, three specimens (Coll. No. 1487); Cat. No. 250615, two specimens (Coll. No. 1488); Cat. No. 250616, one specimen (Coll. No. 1489); Cat. No. 250617, one specimen (Coll. No. 1490); Cat. No. 250618, two specimens (Coll. No. 1491); Cat. No. 250619, one specimen (Coll. No. 1492); Cat. No. 250620, one specimen (Coll. No. 1493); Cat. No. 250621, one specimen (Coll. No. 1494).

ISCHNOCHITON TIGRINUS Krauss.

Cat. No. 177, U.S.N.M., contains a specimen collected by William Stimpson on the North Pacific Exploring Expedition on the Cape of Good Hope. Cat. No. 110252, U.S.N.M., contains three specimens from the same place. In addition to these, there are four lots in the collection of the United States National Museum from Port Alfred, as follows: Cat. No. 249818, one specimen (Coll. No. 1090); Cat. No. 250604, one specimen (Coll. No. 1477); Cat. No. 250607, one specimen (Coll. No. 1480); Cat. No. 250624, one specimen (Coll. No. 1497).

Genus DINOPLAX Carpenter.

DINOPLAX GIGAS Gmelin.

Cat. No. 110201, U.S.N.M., one specimen from the Cape of Good Hope. In addition to this, the United States National Museum has seven lots from Port Alfred, as follows: Cat. No. 186908, two valves (Coll. No. 278); Cat. No. 229832, one specimen (Coll. No. 1104); Cat. No. 249829, four specimens (Coll. No. 1101); Cat. No. 249830, two complete specimens (Coll. No. 1102); Cat. No. 250600, one specimen (Coll. No. 1473); Cat. No. 250601, one specimen (Coll. No. 1474); Cat. No. 250602, one specimen (Coll. No. 1475).

DINOPLAX GIGAS ALFREDENSIS, new subspecies.

Plate 39, figs. 1, 2.

Shell similar to *Dinoplax gigas* in outline and coloring, but with the sculpture in every way much finer. Radiating lines of the lateral areas and the anterior plate only very feebly expressed, with the central very finely truncate as compared with *D. gigas*.

The type, Cat. No. 249831, U.S.N.M., comes from Port Alfred (Coll. No. 1103); it measures: Length, 62 mm.; diameter, 22 mm. Another specimen is registered as 249820, U.S.N.M., and comes from the same locality (Coll. No. 1092).

DINOPLAX FOSSUS Sykes.

Cat. No. 249823, U.S.N.M., contains a young specimen from Port Alfred (Coll. No. 1095).

Gould's cotypes, Cat. No. 159, U.S.N.M., four specimens collected by William Stimpson on the North Pacific Exploring Expedition at False Bay, Cape of Good Hope. The specimen figured measures: Length, 15.1 mm.; diameter, 2.5 mm.

DENTALIUM EXASPERATUM Sowerby.

Cat. No. 186910, U.S.N.M., three specimens from Port Alfred (Coll. No. 280). Cat. No. 250592, U.S.N.M., six additional specimens from Port Alfred (Coll. No. 1465).

DENTALIUM REGULARE Smith.

Cat. No. 187150, U.S.N.M., one specimen from Port Alfred (Coll. No. 697). Cat. No. 250593, U.S.N.M., four specimens from the same locality (Coll. No. 1466).

DENTALIUM, species?

Cat. No. 249795, U.S.N.M., contains two fragments of a *Dentalium*, which we are unable to determine, from Port Alfred (Coll. No. 1067).

Genus SCHIZODONTALIUM Sowerby.

SCHIZODONTALIUM PLURIFISSURATUM Sowerby.

Cat. No. 163019, U.S.N.M., one specimen, dredged in 100 fathoms off Cape St. Blaize, South Africa.

Class PELECYPODA.

Order PRIONODESMACEA.

Family NUCULIDAE.

Genus NUCULA Lamarck.

NUCULA SCULPTURATA Sowerby.

Cat. No. 186966, U.S.N.M., two specimens from Port Alfred (Coll. No. 338).

NUCULA NUCLEUS Linnaeus.

Cat. No. 249893, U.S.N.M., contains a very young specimen of a *Nucula*, which appears to be of this species, from Port Alfred (Coll. No. 1165).

Family LIMOPSIDAE.

Genus LIMOPSIS Sasso.

LIMOPSIS PUMILIS Smith.

Cat. No. 186924, U.S.N.M., six valves from Port Alfred (Coll. No. 294).

Family ARCIDAE.

Genus GLYCIMERIS Da Costa.

GLYCIMERIS QUEKETTI Sowerby.

Cat. No. 186923, U.S.N.M., three valves from Port Alfred (Coll. No. 293). Cat. No. 251067a, U.S.N.M., contains a very young specimen of this species (Col. No. 1584a).

BARBATIA CAFRIA, new species.

Plate 38, figs. 1, 5.

Shell small, rather gibbous, the umbones salmon colored, the rest yellowish white. The epidermis, when present, dark chocolate brown. The two valves similarly sculptured, the epidermis forming strong setae on every third radiating riblet, while the two intermediate ones seem simply to be covered with a smooth integument. There are 29 of the setaceous ribs on each valve and double that number of the intermediary ones. The riblets bearing the setae are strongly nodulose, while the others are almost smooth. Ligamental area narrow, marked by transverse grooves. Interior white.

The type and another specimen of this species, Cat. No. 249849, U.S.N.M., come from Port Alfred (Coll. No. 1121). The type measures: Altitude, 8.5 mm.; length, 14.2 mm.; diameter, 8.6 mm.

Cat. No. 187156, U.S.N.M., contains four additional valves from the same place (Coll. No. 703).

Family PINNIDAE.**Genus PINNA Lamarck.****PINNA SQUAMIFERA Sowerby.**

Cat. No. 187159, U.S.N.M., two specimens from Port Alfred (Coll. No. 706). Cat. No. 227814, U.S.N.M., contains two additional specimens from the same locality (Coll. No. 909).

Genus ATRINA Gray.**ATRINA ALFREDENSIS, new species.**

Plate 40, fig. 3.

Shell depressed pyriform; horn colored, darker at the tip. The interior is dull horn colored, excepting the tip, which is smoky pearly. Upper side slightly curved; the ventral edge decidedly concave; posterior portion decidedly expanded. The surface is marked with five poorly developed and poorly expressed radiating ridges beset with decidedly elevated squamations, which are strongest on the three median ridges. The ventral border is rendered rasp-like by fine poorly developed squamations.

The type and another specimen, Cat. No. 227815, U.S.N.M., come from Port Alfred (Coll. No. 910). The type measures: Length, 73 mm.; greater diameter, 50 mm.

ATRINA AFRA Sowerby (?).

Cat. No. 187160, U.S.N.M., contains fragments of probably this species from Port Alfred (Coll. No. 707). Cat. No. 250991, U.S.N.M., contains another fragment of this species, from the same locality (Coll. No. 1508).

Genus HOCHSTETTERIA Vélain.

HOCHSTETTERIA LIMOIDES Smith.

There are three lots of this species in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No. 186925, contains three valves of this species (Coll. No. 295); Cat. No. 186930, one valve (Coll. No. 300); Cat. No. 251067, one specimen (Coll. No. 1584).

HOCHSTETTERIA VELAINI Smith.

Cat. No. 186926, U.S.N.M., two specimens from Port Alfred (Coll. No. 296).

HOCHSTETTERIA ALFREDENSIS, new species.

Plate 39, figs. 6, 7.

Shell white, variously mottled with brown. Prodissoconch forming a conspicuous shield which is separated from the rest of the shell by a strongly raised cord. The anterior and posterior lateral portion of the succeeding part forms almost an isosceles triangle, the basal portion of which is well rounded. The valves are marked by fifteen moderately strong, very regular radiating threads, and very regularly spaced, equally strong, concentric threads, which form squarish pits on the early portion of the shell and elongate pits near the base. The junction of the radiate and concentric threads forms feeble, rounded nodules. The hinge is shown in our figure.

Cat. No. 182925a, U.S.N.M., contains the type and two additional specimens from Port Alfred (Coll. No. 295a). The type measures: Altitude, 3.6 mm.; length, 3.3 mm. Cat. No. 249855, U.S.N.M., contains another specimen from the same place (Coll. No. 1127).

HOCHSTETTERIA PARAMOEA, new species.

Plate 39, fig. 4.

Shell semitranslucent, white. Prodissoconch forming a conspicuous shield which is separated from the rest of the shell by a strongly raised cord. The shield itself is marked by very fine, closely spaced, radiating threads. The anterior lateral margin of the succeeding part slightly concave; posterior slightly convex; basal margin strongly rounded. Outer surface marked by nine equal, and equally spaced, regular, slender, radiating threads, and equally strong, very regularly spaced, concentric threads, the junction of the two forming feeble nodules.

Cat. No. 249854, U.S.N.M., contains the type and another specimen from Port Alfred (Coll. No. 1126). The type measures: Altitude, 2.2 mm.; length, 2.1 mm.

Genus *PHILOBRYA* Carpenter.*PHILOBRYA AFRICANA*, new species.

Plate 46, figs. 1, 2.

small, translucent, white, broadly triangular, with the beaks at apex of the triangle. Dorsal edge slightly curved, ventral edge concave; posterior portion well rounded. The junction of anterior and dorsal edges form somewhat of an angle and give it an alate aspect. The external surface of the shell is marked with concentric lines of growth and numerous, exceedingly fine, closely radiating, hair-like streaks which give to the surface a striate aspect.

Type and another specimen, Cat. No. 187154, U.S.N.M., come from Port Alfred (Coll. No. 701). The type measures: Length, 5 mm.; width, 4 mm.

In addition to these, the United States National Museum contains several, all from Port Alfred, as follows: Cat. No. 227811, six valves (Coll. No. 906); Cat. No. 227812, five valves (Coll. No. 907); Cat. No. 22841, two specimens (Coll. No. 1113); Cat. No. 251001, one valve (Coll. No. 1518); Cat. No. 251007, one valve (Coll. No. 1524).

Family *PTERIIDAE*.Genus *MARGARITIPHORA* Muhlfield.*MARGARITIPHORA NATALENSIS* Jameson.

No. 17225, U.S.N.M., contains a specimen from the Cape of Good Hope.

MARGARITIPHORA CAPENSIS Sowerby.

No. 186914, U.S.N.M., one specimen from Port Alfred (Coll. No. 1518).

Family *OSTREIDAE*.Genus *OSTREA* Lamarck.*OSTREA ALGOENSIS* Sowerby.

No. 175, U.S.N.M., contains a specimen collected by William B. Sturges on the North Pacific Exploring Expedition at Simons Bay, at low water. In addition to this, the United States National Museum contains 14 lots from Port Alfred, as follows: Cat. No. 187163, four specimens (Coll. No. 710); Cat. No. 187164, one specimen (Coll. No. 711); Cat. No. 187165, eight valves (Coll. No. 712); Cat. No. 249833, two young specimens (Coll. No. 1105); Cat. No. 250981, one specimen (Coll. No. 1498); Cat. No. 250982, two valves (Coll. No. 1499); Cat. No. 250983, one specimen (Coll. No. 1500);

LIMA AFRICANA, new species.

Plate 38, fig. 4.

Shell small, thin, inaequivalve, bluish white, gaping at the posterior lateral border and at the middle of the ventral border. Hinge line slightly sloping in both directions from the umbones. The lateral margin is concave immediately below the junction of the hinge line, then strongly curved toward the anterior border. The ventral margin is also slightly concave immediately below the hinge line, then almost straight, curving suddenly upon reaching the anterior margin. The exterior sculpture consists of about fifty fine radiating riblets. The posterior ventral and lateral borders are not ribbed. Interior bluish white, showing the external riblets by transmitted light.

The type, Cat. No. 249853, U.S.N.M., comes from Port Alfred (Coll. No. 1125). It measures: Length, 13.5 mm.; diameter, 9 mm.; thickness, 5 mm.

This is evidently the shell which has been listed as *Lima hians tenera* Turton. It is not that species however. The sculpture is much finer and less regularly fluted than in *tenera*, and the shell is much shorter and more rounded than *tenera*, the latter being elongate.

LIMA, species?

Cat. No. 251002, U.S.N.M., contains a very young *Lima*, from Port Alfred, which I am unable to identify (Coll. No. 1519). Cat. No. 250376, U.S.N.M., contains another very young *Lima* from Port Alfred, in the same state (Coll. No. 1249).

Family ANOMIIDAE.

Genus ANOMIA Müller.

ANOMIA EPHIPPIMUM Linnaeus.

Cat. No. 136, U.S.N.M., contains a young specimen collected by William Stimpson on the North Pacific Exploring Expedition at Simons Bay. In addition to this, there are six lots of young specimens in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No. 187162, three valves (Coll. No. 709); Cat. No. 249836, three valves (Coll. No. 1108); Cat. No. 250988, four valves (Coll. No. 1505); Cat. No. 250993, one valve (Coll. No. 1510); Cat. No. 250531, one valve (Coll. No. 1404); Cat. No. 251060, one valve (Coll. No. 1577).

ANOMIA PATELLIFORMIS Linnaeus.

There are five lots of this species in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No.

MODIOLA CAPENSIS Krauss.

Cat. No. 167, U.S.N.M., one specimen collected by William Stimpson on the North Pacific Exploring Expedition at Simons Bay. Cat. No. 43184, U.S.N.M., three specimens from the Cape of Good Hope. In addition to these, there are three lots in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No. 186918, two and one-half specimens (Coll. No. 288); Cat. No. 249843, two specimens (Coll. No. 1115); Cat. No. 249845, one specimen (Coll. No. 1117).

MODIOLA AURICULATA Krauss.

Cat. No. 227813, U.S.N.M., contains three specimens of this species from Port Alfred (Coll. No. 908). Cat. No. 249840, U.S.N.M., contains another specimen from the same place (Coll. No. 1112).

MODIOLA LIGNEA Reeve.

Cat. No. 186919, U.S.N.M., one specimen from Port Alfred (Coll. No. 289).

Genus CRENELLA Brown.**CRENELLA STRIATISSIMA Sewerby.**

Three lots of this species are in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No. 187183, two valves (Coll. No. 734); Cat. No. 227820, two valves (Coll. No. 915); Cat. No. 251062, a young specimen (Coll. No. 1579).

CRENELLA ALFREDENSIS, new species.

Plate 41, fig. 1; plate 49, fig. 1.

Shell small, milk white, of very regular oval outline, the outer surface marked by numerous, very fine, radiating threads and rather strong incremental lines.

The type and another valve, Cat. No. 251006, U.S.N.M., come from Port Alfred (Coll. No. 1523). It measures: Altitude, 3.2 mm.; length, 2.1 mm.

This species agrees with *Crenella striatissima* in size, but differs markedly from it in outline, *striatissima* having a mytiloid shape, while the present species is practically a perfect oval in outline.

Genus MODIOLARIA Beck.**MODIOLARIA CUNEATA Gould.**

Plate 42, figs. 5, 6.

Modiolaria cuneata GOULD, Proc. Bost. Soc. Nat. Hist., vol. 8, p. 38, 1861.

Shell moderately large, cream yellow, considerably inflated. Umbones prominent, extending to the anterior limit of the shell. Dorsal edge short, posterior dorsal edge sloping abruptly, curving

ventrally. Basal edge somewhat sinuous. Anterior end with 16 radiating, low, flattened cords; posterior end with 17.

Gould's cotypes, six specimens, Cat. No. 126, U.S.N.M., were collected by William Stimpson on the North Pacific Exploring Expedition at Simon's Bay. The specimen figured measures: Length, 11.8 mm.; altitude, 7 mm.; diameter, 7 mm. Cat. No. 186920, U.S.N.M., one specimen from Port Alfred (Coll. No. 290).

MODIOLARIA AFRICANA, new species.

Plate 41, fig. 2.

Shell small, pale yellow. Hinge margin almost straight; posterior lateral margin evenly, gradually rounded, the anterior lateral shortly, strongly rounded, the basal slightly emarginate. The posterior portion is marked by about 50 rather strong, radiating, axial riblets, while the extreme anterior bears 12. In addition to the radiating sculpture, the shell is marked by rather strong, concentric threads which render the radiating riblets crenulated at their junction. The area devoid of radiating sculpture is equal to about one-third of the entire length of the shell at the basal margin.

The type, Cat. No. 251000, U.S.N.M., comes from Port Alfred (Coll. No. 1517). It measures: Altitude, 2 mm.; length, 3.5 mm.

MODIOLARIA IMA, new species.

Plate 40, figs. 4, 5.

Shell pale green, variously mottled with brown. Dorsal margin slightly curved, the posterior lateral strongly, evenly so, the anterior lateral very strongly, shortly curved, the basal slightly emarginate anteriorly. The posterior portion of the shell is marked by 16, broad, low, rounded, radiating riblets, which become narrower and closer spaced toward the dorsal margin. The anterior end is marked by 4, weak, radiating riblets. In addition to the radiating sculpture, the shell is marked by irregular incremental lines, which pass over the radiating sculpture as fine threads, but do not render them crenulated. The area devoid of radiating sculpture is equal to about two-fifths of the length of the shell at the ventral border.

The type and another valve, Cat. No. 249848, U.S.N.M., come from Port Alfred (Coll. No. 1120). The type measures: Altitude, 4 mm.; length, 7 mm.

Order ANOMALODESMACEA.

Family SOLEMYIDAE.

Genus SOLEMYA Lamarck.

SOLEMYA, species?

Cat. No. 250996, U.S.N.M., contains fragments of a young specimen too poor to be determined, from Port Alfred (Coll. No. 1513).

Family LYONSIDAE.

Genus LYONSIA Turton.

LYONSIA, species?

Cat No. 249877, U.S.N.M., contains two valves of a *Lyonsia* too poor to be determined, from Port Alfred (Coll. No. 1149).

Family THRACIDAE.

Genus THRACIA Blainville.

THRACIA, species?

There are five lots of young *Thracia* in the collection of the United States National Museum, all from Port Alfred, but they are too young to be properly determined: Cat. No. 187181, one valve (Coll. No. 732); Cat. No. 187186, one valve (Coll. No. 737); Cat. No. 249878, two valves (Coll. No. 1150); Cat. No. 249881, two specimens (Coll. No. 1153); Cat. No. 249882, three specimens (Coll. No. 1154).

Genus CLISTOCONCHA Smith.

CLISTOCONCHA INSIGNIS Smth.

There are six lots of this species in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No. 227819, three specimens (Coll. No. 914); Cat. No. 249868, one specimen (Coll. No. 1140); Cat. No. 249869, one specimen (Coll. No. 1141); Cat. No. 249870, one specimen (Coll. No. 1142); Cat. No. 249879a, one specimen (Coll. No. 1151a); Cat. No. 249880, two specimens (Coll. No. 1152).

Order TELEODESMACEA.

Family CRASSATELLITIDAE.

Genus CRASSATELLITES Krüger.

CRASSATELLITES ACUMINATA Sowerby.

There are three lots of this species in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No. 186933, one and one-half specimens (Coll. No. 303); Cat. No. 251017, two valves (Coll. No. 1534); Cat. No. 251018, another young valve (Coll. No. 1535).

Genus CUNA Hedley.

CUNA CONCENTRICA, new species.

Plate 47, fig. 3; plate 52, figs. 11, 12.

Shell minute, thin, bluish white, semitransparent, having an almost triangular outline, with the posterior dorsal margin quite evenly curved and the anterior slightly concave. Entire surface marked by very regular, strong, threadlike, concentric rings, which are a

Cat. No. 98038, U.S.N.M., four specimens from Albany. Cat. No. 186927, U.S.N.M., two specimens from Port Alfred (Coll. No. 297). Cat. No. 227817, U.S.N.M., two specimens from the same locality (Coll. No. 912).

Genus *MIODONTISCUS* Dall.

MIODONTISCUS MINIMUS Smith.

There are four lots of this species in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No. 186932, four and one-half specimens (Coll. No. 302); Cat. No. 249856, four valves (Coll. No. 1128); Cat. No. 249857, four valves (Coll. No. 1129); Cat. No. 251008, two valves (Coll. No. 1525).

Family *CONDYLOCARDIIDAE*.

Genus *CONDYLOCARDIA* Smith.

CONDYLOCARDIA IO, new species.

Plate 48, fig. 1; plate 54, figs. 7, 8.

Shell irregularly oval, rather inflated, thin, semitranslucent. Prodissoconch forming a conspicuous shield having an elevated mammilate area at its apex, separated from the succeeding portion of the shell by a strongly raised ridge. Succeeding portion of the shell marked by very fine concentric threads which become slightly stronger as the shell attains maturity. The character of the hinge is shown by the detailed sketch.

Cat. No. 251066, U.S.N.M., contains two specimens of this species from Port Alfred (Coll. No. 1583). The type measures: Altitude, 2.3 mm.; length, 2.6 mm.

Genus *CARDITELLA* Smith.

CARDITELLA RUGOSA Sowerby.

Cat. No. 186928, U.S.N.M., three specimens from Port Alfred (Coll. No. 298).

Genus *CARDITOPSIS* Smith.

CARDITOPSIS ALFREDENSIS, new species.

Plate 48, fig. 4; plate 54, figs. 3, 4.

Shell minute, subtrigonal, rather thick, bluish white, marked by feebly impressed lines of growth, and very weak, low, radiating threads. Edge of the shell thick all around. Basal margin weakly crenulated. The character of the hinge is shown in our detailed sketch.

The type and another valve, Cat. No. 251005, U.S.N.M., come from Port Alfred (Coll. No. 1522). The type measures: Altitude, 2 mm.; length, 1.7 mm.

PHACOIDES DESPECTA Smith.

Cat. No. 186962, U.S.N.M., one specimen from Port Alfred (Coll. No. 333).

Family **DIPLODONTIDAE**.Genus **DIPLODONTA** Bronn.**DIPLODONTA AFRICANA**, new species.

Plate 47, fig. 5; plate 53, figs. 9, 10.

Shell small, donaciform, thin, semitranslucent. Exterior marked by numerous, regular and regularly spaced, slender, concentric threads, which are about as wide as the spaces that separate them. The incised lines appear as hydrophanous bands. In addition to the concentric markings, there are irregularly disposed, somewhat discontinuous, slender, radiating, hydrophanous lines. The entire external sculpture is equally visible within. The character of the hinge is shown in our detailed sketch.

The type, Cat. No. 251029, U.S.N.M., comes from Port Alfred (Coll. No. 1546). It measures: Altitude, 1.5 mm.; length, 2.2 mm. Cat. No. 251047, U.S.N.M., contains another specimen from the same locality (Coll. No. 1564).

DIPLODONTA ALMO, new species.

Plate 47, fig. 1; plate 54, fig. 2.

Shell very thin, semitranslucent, bluish white. Umbones median. Anterior and posterior dorsal margins sloping evenly. Surface marked with numerous, equal and equally spaced, slender, concentric threads which are about half as wide as the spaces that separate them. In addition to this, there are numerous, very fine, radiating striations. All the external markings are seen on the inner surface. The character of the hinge is shown in our detailed sketch.

The type, Cat. No. 251048, U.S.N.M., comes from Port Alfred (Coll. No. 1565). It measures: Altitude, 2.8 mm.; length, 3.5 mm.

Genus **FELANIELLA** Dall.**FELANIELLA ALFREDENSIS**, new species.

Plate 48, fig. 5; plate 53, figs. 7, 8.

Shell minute, bluish white, semitransparent, irregularly oval in outline. Umbones projecting anteriorly. Surface marked by fine incremental lines and very fine, somewhat divaricating, closely spaced, radiating striations. The character of the hinge is shown in our detailed sketch.

The type and another specimen of this species, Cat. No. 251044, U.S.N.M., come from Port Alfred (Coll. No. 1561). The type measures: Altitude, 1.5 mm.; length, 1.9 mm.

BORNIA AFRICA, new species.

Plate 41, fig. 7; plate 51, fig. 4.

Shell broadly oval. Umbones decidedly anterior to the middle. Outer surface of the shell marked by numerous very closely spaced, fine, concentric threads, which are a little broader than the spaces that separate them, and numerous, very fine, microscopic, radiating striations. The character of the hinge is shown in our detailed sketch.

The type, Cat. No. 249894b, U.S.N.M., comes from Port Alfred (Coll. No. 1166b). It consists of a right valve, and measures: Altitude, 2.3 mm.; length, 2.8 mm.

BORNIA (PYTHINA) ROTUNDATA Deshayes.

Plate 51, figs. 5, 6.

Cat. No. 186969, U.S.N.M., contains two and one-half specimens of this species from Port Alfred (Coll. No. 342).

BORNIA (PYTHINA) AFRICANA, new species.

Plate 42, figs. 1, 2; plate 51, fig. 3.

Shell rather large, oval, slightly emarginate at the base, with the umbones decidedly posterior to the middle. The outer surface is marked by fine lines of growth and minute tubercles, which lend it a shagreened appearance. On the anterior end the shell has a few, ill-defined, raised, radiating threads.

The type and another valve, Cat. No. 187190, U.S.N.M., come from Port Alfred (Coll. No. 741). The type measures: Altitude, 9.5 mm.; length, 13.8 mm.

Three additional lots are in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No. 251011, a young specimen (Coll. No. 1528); Cat. No. 251038, one valve (Coll. No. 1555); Cat. No. 251056, one young valve (Coll. No. 1573).

Genus ROCHEFORTIA Vélain.**ROCHEFORTIA CONVEXA Gould.**

Plate 45, figs. 1, 2; plate 47, fig. 4, young; plate 51, figs. 7, 8, hinge.

Kellia convexa GOULD, Proc. Bost. Soc. Nat. Hist., vol. 8, p. 34, 1861.

Shell of suboval outline, wax yellow. Umbones almost median, with the dorsal margin slanting almost equally, anteriorly and posteriorly. Both ends equally rounded, and the basal margin gently curved. Entire surface marked by rather irregular, fine lines of growth. Hinge as shown in Plate 51, figs. 7, 8.

Gould's cotypes, Cat. No. 24244, U.S.N.M., two specimens, were collected by William Stimpson on the North Pacific Exploring Expe-

differs in 12 fathoms at the Cape of Good Hope. The larger of these plates, figs. 1, 2, measures: Length, 4.2 mm.; altitude, 3 mm.; diameter, 2 mm.

BUCHIFORTIA SINGULI Smith.

Plate 51, figs. 2, 12.

There are three lots of this species in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No. 249887, one and one-half specimens (Coll. No. 339); Cat. No. 249888, two specimens (Coll. No. 1153); Cat. No. 251052, two valves (Coll. No. 1153).

BUCHIFORTIA BATAVENSIS Smith.

Plate 52, figs. 1, 2.

There are three lots of this species in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No. 249889, one valve (Coll. No. 736); Cat. No. 249890, two specimens (Coll. No. 1153); Cat. No. 249891, two specimens (Coll. No. 1153).

BUCHIFORTIA BATAVENSIS, new species.

Plate 51, fig. 5; plate 52, figs. 3, 4.

Shell oval, rather thick, with the umbones almost median. Surface marked by somewhat irregular, slender, closely spaced lines of growth, and weak, very fine, radiating striations. The character of the hinge is shown in the detailed sketch.

The type, Cat. No. 251040, U.S.N.M., comes from Port Alfred (Coll. No. 1153). It measures: Altitude, 3 mm.; length, 3.8 mm.

BUCHIFORTIA ELISA, new species.

Plate 51, fig. 3; plate 52, figs. 5, 6.

Shell nearly oval, minute, very thin, semitranslucent, the umbones very small at the anterior end. Outer surface marked by numerous fine, radiating lines of growth, which appear as very slender threads. No radiating sculpture is apparent. The character of the hinge is shown in the detailed sketch.

The type, Cat. No. 251045, U.S.N.M., comes from Port Alfred (Coll. No. 1153). It measures: Altitude, 1.4 mm.; length, 1.8 mm.

BUCHIFORTIA MILDA, new species.

Plate 51, fig. 6; plate 52, figs. 9, 10.

Shell nearly oval covered by an exceedingly thin periostracum, which has an iridescent appearance. Umbones slightly anterior. The posterior margin slightly truncated; the surface marked by numerous very close, radiating threads, which are a little wider than the interspaces, and numerous very fine radiating striae.

, which are best pronounced on the posterior portion of the valve. The character of the hinge is shown in our detailed sketch. The type and another valve, Cat. No. 249894, U.S.N.M., come from Port Alfred (Coll. No. 1166). The type measures: Altitude, 2.2 mm.; length, 2.5 mm.

ROCHEFORTIA HELENA, new species.

Plate 42, figs. 3, 4; plate 47, fig. 2; plate 52, figs. 7, 8.

very minute, of somewhat irregular cuneate outline, thin, semicircular. Umbones a little posterior to the anterior margin. Surface marked by exceedingly fine, concentric threads only. The character of the hinge is shown in our detailed sketch.

The type and another specimen of this species, Cat. No. 187193, U.S.N.M., come from Port Alfred (Coll. No. 744). The type measures: Altitude, 1.2 mm.; length, 1.5 mm.

No. 251019, U.S.N.M. contains three additional valves of this species from the same place (Coll. No. 1536).

ROCHEFORTIA IO, new species.

Plate 39, fig. 5; plate 53, figs. 5, 6.

very minute, of irregular cuneate outline. Prodissoconch marked by fine radiating striations. The succeeding portion, which is separated by a slight constriction from the prodissoconch, is marked by numerous, rather strong, concentric threads, which are about as wide as the spaces that separate them. The character of the hinge is shown in our detailed sketch.

The type and two other specimens, Cat. No. 251043, U.S.N.M., come from Port Alfred (Coll. No. 1560). The type measures: Altitude, 0.9 mm.; length, 1.1 mm.

ROCHEFORTIA FARMA, new species.

Plate 48, fig. 2; plate 53, figs. 1, 2.

small, oval, covered with a very thin yellowish periostracum, with the umbones about one-third of the entire length of the shell anterior to the anterior margin. Surface marked with rather coarse somewhat irregular lines of growth, and numerous, fine, radiating lines which are of varying strength and irregular spacing. The character of the hinge is shown in our detailed figure.

The type and another valve, Cat. No. 249892, U.S.N.M., come from Port Alfred (Coll. No. 1164). The type measures: Altitude, 1.9 mm.; length, 2.5 mm.

Genus LASEA Leach.

LASEA TURTONI, new species.

Plate 42, figs. 9, 10; plate 53, figs. 3, 4.

irregularly, broadly oval, white, with the early portion and the umbones suffused with rose purple. The umbones are about opposite the

dition in 12 fathoms at the Cape of Good Hope. The larger of these, plate 45, figs. 1, 2, measures: Length, 4.2 mm.; altitude, 3 mm.; diameter, 2 mm.

ROCHEFORTIA SIMILIS Smith.

Plate 51, figs. 9, 10.

There are three lots of this species in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No. 186967, one and one-half specimens (Coll. No. 339); Cat. No. 249886, two specimens (Coll. No. 1158); Cat. No. 251052, two valves (Coll. No. 1569).

ROCHEFORTIA NATALENSIS Smith.

Plate 52, figs. 1, 2.

There are three lots of this species in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No. 186185, one valve (Coll. No. 736); Cat. No. 249890, two specimens (Coll. No. 1162); Cat. No. 249891, two specimens (Coll. No. 1163).

ROCHEFORTIA ENORA, new species.

Plate 45, fig. 5; plate 52, figs. 3, 4.

Shell oval, rather thick, with the umbones almost median. The surface marked by somewhat irregular, slender, closely spaced lines of growth, and weak, very fine, radiating striations. The character of the hinge is shown in the detailed sketch.

The type, Cat. No. 251040, U.S.N.M., comes from Port Alfred (Coll. No. 1557). It measures: Altitude, 3 mm.; length, 3.8 mm.

ROCHEFORTIA ELSA, new species.

Plate 41, fig. 3; plate 52, figs. 5, 6.

Shell broadly oval, minute, very thin, semitranslucent, the umbones being situated at the anterior end. Outer surface marked by numerous, very fine, concentric lines of growth, which appear as very slender threads. No radiating sculpture is apparent. The character of the hinge is shown in our detailed sketch.

The type, Cat. No. 251045, U.S.N.M., comes from Port Alfred (Coll. No. 1562). It measures: Altitude, 1.4 mm.; length, 1.8 mm.

ROCHEFORTIA MILDA, new species.

Plate 47, fig. 6; plate 52, figs. 9, 10.

Shell small, broadly oval, covered by an exceedingly thin periostracum, which lends it an iridescent appearance. Umbones slightly anterior to the middle. The posterior margin slightly truncated; the anterior well rounded. Surface marked by numerous very closely spaced, slender, concentric threads, which are a little wider than the spaces that separate them, and numerous very fine radiating axial

3, which are best pronounced on the posterior portion of the valve. The character of the hinge is shown in our detailed sketch. The type and another valve, Cat. No. 249894, U.S.N.M., come from Port Alfred (Coll. No. 1166). The type measures: Altitude, 2.2 mm.; length, 2.5 mm.

ROCHEFORTIA HELENA, new species.

Plate 42, figs. 3, 4; plate 47, fig. 2; plate 52, figs. 7, 8.

Small minute, of somewhat irregular cuneate outline, thin, semitranslucent. Umbones a little posterior to the anterior margin. Surface marked by exceedingly fine, concentric threads only. The character of the hinge is shown in our detailed sketch.

The type and another specimen of this species, Cat. No. 187193, U.S.N.M., come from Port Alfred (Coll. No. 744). The type measures: Altitude, 1.2 mm.; length, 1.5 mm.

No. 251019, U.S.N.M. contains three additional valves of this species from the same place (Coll. No. 1536).

ROCHEFORTIA IO, new species.

Plate 39, fig. 5; plate 53, figs. 5, 6.

Small very minute, of irregular cuneate outline. Prodissoconch marked by fine radiating striations. The succeeding portion, which is separated by a slight constriction from the prodissoconch, is marked by numerous, rather strong, concentric threads, which are about as wide as the spaces that separate them. The character of the hinge is shown in our detailed sketch.

The type and two other specimens, Cat. No. 251043, U.S.N.M., come from Port Alfred (Coll. No. 1560). The type measures: Altitude, 0.9 mm.; length, 1.1 mm.

ROCHEFORTIA FARMA, new species.

Plate 48, fig. 2; plate 53, figs. 1, 2.

Small small, oval, covered with a very thin yellowish periostracum, the umbones about one-third of the entire length of the shell anterior to the anterior margin. Surface marked with rather coarse somewhat irregular lines of growth, and numerous, fine, radiating lines which are of varying strength and irregular spacing. The character of the hinge is shown in our detailed figure.

The type and another valve, Cat. No. 249892, U.S.N.M., come from Port Alfred (Coll. No. 1164). The type measures: Altitude, 1.9 mm.; length, 2.5 mm.

Genus LASEA Leach.

LASEA TURTONI, new species.

Plate 42, figs. 9, 10; plate 53, figs. 3, 4.

Small irregularly, broadly oval, white, with the early portion and the umbones suffused with rose purple. The umbones are about opposite the

ROCHEFORTIA ELISA, new species.

Plate 41, fig. 3; plate 52, figs. 5, 6.

Shell broadly oval, minute, very thin, semitranslucent, the umbilicus being situated at the anterior end. Outer surface marked by numerous, very fine, concentric lines of growth, which appear as very slender threads. No radiating sculpture is apparent. The character of hinge is shown in our detailed sketch.

The type, Cat. No. 251045, U.S.N.M., comes from Port Alfred (Cat. No. 1562). It measures: Altitude, 1.4 mm.; length, 1.8 mm.

ROCHEFORTIA MILDA, new species.

Plate 47, fig. 8; plate 52, figs. 9, 10.

threads, which are best pronounced on the posterior portion of the shell. The character of the hinge is shown in our detailed sketch.

The type and another valve, Cat. No. 249894, U.S.N.M., come from Port Alfred (Coll. No. 1166). The type measures: Altitude, 2.2 mm.; length, 2.5 mm.

ROCHEFORTIA HELENA, new species.

Plate 42, figs. 3, 4; plate 47, fig. 2; plate 52, figs. 7, 8.

Shell minute, of somewhat irregular cuneate outline, thin, semi-translucent. Umbones a little posterior to the anterior margin. Outer surface marked by exceedingly fine, concentric threads only. The character of the hinge is shown in our detailed sketch.

The type and another specimen of this species, Cat. No. 187193, U.S.N.M., come from Port Alfred (Coll. No. 744). The type measures: Altitude, 1.2 mm.; length, 1.5 mm.

Cat. No. 251019, U.S.N.M. contains three additional valves of this species from the same place (Coll. No. 1536).

ROCHEFORTIA IO, new species.

Plate 39, fig. 5; plate 53, figs. 5, 6.

Shell very minute, of irregular cuneate outline. Prodissoconch marked by fine radiating striations. The succeeding portion, which is separated by a slight constriction from the prodissoconch, is marked by numerous, rather strong, concentric threads, which are about as wide as the spaces that separate them. The character of the hinge is shown in our detailed sketch.

The type and two other specimens, Cat. No. 251043, U.S.N.M., come from Port Alfred (Coll. No. 1560). The type measures: Altitude, 0.9 mm.; length, 1.1 mm.

ROCHEFORTIA FARMA, new species.

Plate 48, fig. 2; plate 53, figs. 1, 2.

Shell small, oval, covered with a very thin yellowish periostracum, with the umbones about one-third of the entire length of the shell posterior to the anterior margin. Surface marked with rather coarse and somewhat irregular lines of growth, and numerous, fine, radiating striations which are of varying strength and irregular spacing. The character of the hinge is shown in our detailed figure.

The type and another valve, Cat. No. 249892, U.S.N.M., come from Port Alfred (Coll. No. 1164). The type measures: Altitude, 1.9 mm.; length, 2.5 mm.

Genus LASEA Leach.

LASEA TURTONI, new species.

Plate 42, figs. 9, 10; plate 53, figs. 3, 4.

Shell irregularly, broadly oval, white, with the early portion and the hinge suffused with rose purple. The umbones are about opposite the

threads, which are best pronounced on the posterior portion of the shell. The character of the hinge is shown in our detailed sketch.

The type and another valve, Cat. No. 249894, U.S.N.M., come from Port Alfred (Coll. No. 1166). The type measures: Altitude, 2.2 mm.; length, 2.5 mm.

ROCHEFORTIA HELENA, new species.

Plate 42, figs. 3, 4; plate 47, fig. 2; plate 52, figs. 7, 8.

Shell minute, of somewhat irregular cuneate outline, thin, semi-translucent. Umbones a little posterior to the anterior margin. Outer surface marked by exceedingly fine, concentric threads only. The character of the hinge is shown in our detailed sketch.

The type and another specimen of this species, Cat. No. 187193, U.S.N.M., come from Port Alfred (Coll. No. 744). The type measures: Altitude, 1.2 mm.; length, 1.5 mm.

Cat. No. 251019, U.S.N.M. contains three additional valves of this species from the same place (Coll. No. 1536).

ROCHEFORTIA IO, new species.

Plate 39, fig. 5; plate 53, figs. 5, 6.

Shell very minute, of irregular cuneate outline. Prodissoconch marked by fine radiating striations. The succeeding portion, which is separated by a slight constriction from the prodissoconch, is marked by numerous, rather strong, concentric threads, which are about as wide as the spaces that separate them. The character of the hinge is shown in our detailed sketch.

The type and two other specimens, Cat. No. 251043, U.S.N.M., come from Port Alfred (Coll. No. 1560). The type measures: Altitude, 0.9 mm.; length, 1.1 mm.

ROCHEFORTIA FARMA, new species.

Plate 48, fig. 2; plate 53, figs. 1, 2.

Shell small, oval, covered with a very thin yellowish periostracum, with the umbones about one-third of the entire length of the shell posterior to the anterior margin. Surface marked with rather coarse and somewhat irregular lines of growth, and numerous, fine, radiating striations which are of varying strength and irregular spacing. The character of the hinge is shown in our detailed figure.

The type and another valve, Cat. No. 249892, U.S.N.M., come from Port Alfred (Coll. No. 1164). The type measures: Altitude, 1.9 mm.; length, 2.5 mm.

Genus LASEA Leach.

LASEA TURTONI, new species.

Plate 42, figs. 9, 10; plate 53, figs. 3, 4.

Shell irregularly, broadly oval, white, with the early portion and the hinge suffused with rose purple. The umbones are about opposite the

Genus *TIVELA* Link.*TIVELA COMPRESSA* Sewerby.

Cat. No. 19835, U.S.N.M., one specimen collected by William Stimpson on the North Pacific Exploring Expedition at Simons Bay. Cat. No. 186938, U.S.N.M., three valves from Port Alfred (Coll. No. 308).

TIVELA ALUCINANS Sewerby.

Cat. No. 43179, U.S.N.M., one specimen from the Cape of Good Hope.

Genus *SUNETTA* Link.*SUNETTA OVALIS* Sewerby.

Cat. No. 186940, U.S.N.M., seven valves from Port Alfred (Coll. No. 310).

Genus *CIRCE* Schumacher.*CIRCE ALFREDENSIS*, new species.

Plate 46, figs. 3, 4.

Shell oval, white or pale brown flecked with rust brown. Umbones about one-third of the length of the shell posterior to the anterior margin. Surface marked by strong radiating ribs which increase in strength from the umbones toward the ventral margin. On the posterior and anterior margins they become divaricate. There are 30 of these ribs on the valve. The spaces separating these radiating ribs are a little less in width than the ribs, and are marked with concentric riblets. These riblets extend up on the sides of the ribs but do not seem to cross their summits. The character of the hinge is shown in our detailed sketch.

The type and another valve, Cat. No. 189441, U.S.N.M., come from Port Alfred (Coll. No. 311). The type measures: Altitude, 11.5 mm.; length, 16 mm.

Genus *CHIONE* Mühlfeld.*CHIONE*, species?

Cat. No. 187180, U.S.N.M., two valves, young specimens of a species of this genus, too poor to be specifically determined, from Port Alfred (Coll. No. 731).

Genus *ANOMALOCARDIA* Schumacher.*ANOMALOCARDIA ALFREDENSIS*, new species.

Plate 44, figs. 3, 4.

Shell inflated, heavy, irregularly triangular, flesh colored marked with radiating, zigzag lines of rust brown. Outer surface polished, marked by concentric lines of growth and somewhat crinkly, radiating striations. The character of the hinge is shown in our detailed sketch.

Family TELLINIDAE.

Genus TELLINA Linnaeus.

TELLINA VIDALENSIS Sowerby.

Cat. No. 66, U.S.N.M., four specimens collected by William Stimpson on the North Pacific Exploring Expedition in False Bay.

TELLINA ALBINELLA ALFREDENSIS, new subspecies.

Plate 46, figs. 7, 8.

Shell similar in outline and coloration to the rose-colored form of *T. albinella* Lamarck, but differing from it in being much heavier, and in having the angulated posterior dorsal area much narrower, which renders the posterior end of the shell much more pointedly beaked. The radiating sculpture is also much coarser than in *albinella*.

Cat. No. 186948, U.S.N.M., contains the type which comes from Port Alfred (Coll. No. 318). The type measures: Length, 46.8 mm.; altitude, 25.5 mm. Cat. No. 249859, U.S.N.M., contains another valve from the same locality (Coll. No. 1131).

TELLINA NATALENSIS Krauss.

Cat. No. 186949, U.S.N.M., one valve from Port Alfred (Coll. No. 319).

TELLINA PONSONBYI Sowerby.

Three lots of this species are in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No. 186950, two specimens (Coll. No. 320); Cat. No. 249860, three specimens (Coll. No. 1132); Cat. No. 249885, three very young specimens (Coll. No. 1157).

TELLINA TRIANGULARIS Chemnitz.

Cat. No. 98046, U.S.N.M., one specimen from Albany. In addition to this, there are two lots in the collection of the United States National Museum from Port Alfred, as follows: Cat. No. 186951, two specimens (Coll. No. 321); Cat. No. 251031, one very young valve (Coll. No. 1548).

TELLINA REGULARIS Smith.

Cat. No. 186952, U.S.N.M., three specimens from Port Alfred (Coll. No. 322).

TELLINA, species?

Cat. No. 251037, U.S.N.M., is a young valve of a *Tellina* which I am unable to identify, from Port Alfred (Coll. No. 1554).

TELLINA, species?

Cat. No. 251050, U.S.N.M., is a valve from Port Alfred, belonging to the section of rounded-valve *Tellinas* having radiating red bands, which I am unable to identify. On account of its worn condition I refrain from describing it as new (Coll. No. 1367).

Family PSAMMOBIIDAE.

Genus GASTRANA Schumacher.

GASTRANA ABILDGAARDIANA Spengler.

There are three lots of this species in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No. 186947, one specimen (Coll. No. 317); Cat. No. 186958, a very young valve (Coll. No. 328); Cat. No. 249872, four young valves (Coll. No. 1144).

Genus PSAMMOBIA (Lamarck) Bowdich.

PSAMMOBIA BURNUPI Sowerby.

Cat. No. 187169, U.S.N.M., three valves from Port Alfred (Coll. No. 716).

PSAMMOBIA, species?

Cat. No. 187169a, U.S.N.M., contains a valve of a *Psammobia* which I am unable to reconcile with any of the known species from South Africa, but which is too poor to be identified, (Coll. No. 716). It comes from Port Alfred.

Genus PSAMMOTELLINA Fischer.

PSAMMOTELLINA CAPENSIS Sowerby.

Cat. No. 127046, U.S.N.M., three specimens from Port Elizabeth. In addition to these, there are six lots in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No. 186953, one specimen and four valves (Coll. No. 323); Cat. No. 249864, seven specimens (Coll. No. 1136); Cat. No. 249865, one specimen (Coll. No. 1137); Cat. No. 249866, one specimen (Coll. No. 1138); Cat. No. 249867, one valve (Coll. No. 1139); Cat. No. 251055, one valve (Coll. No. 1572).

Family DONACIDAE.

Genus DONAX Linnaeus.

DONAX SERRA Chemnitz.

Cat. No. 84, U.S.N.M., three specimens collected by William Stimpson on the North Pacific Exploring Expedition at the Cape of Good Hope. Cat. No. 76087, U.S.N.M., two valves from the Cape of Good Hope. Cat. No. 97998, U.S.N.M., two specimens from Albany. Cat. No. 98234, U.S.N.M., one specimen from Port Elizabeth. Cat. No. 186956, U.S.N.M., one specimen from Port Alfred (Coll. No. 326).

DONAX BERTINI Pilsbry.

Cat. No. 160860, U.S.N.M., one specimen from South Africa. Cat. No. 251035, U.S.N.M., contains two valves from Port Alfred (Coll. No. 1552).

Good Hope. Cat. No. 17496, U.S.N.M., one specimen from the Cape of Good Hope. Cat. No. 186944, U.S.N.M., one specimen from Port Alfred (Coll. No. 314).

Genus **EASTONIA** Gray.

EASTONIA AFRICANA, new species.

Plate 43, figs. 5, 6.

Shell broadly oval, thin. Umbones about one-third of the length of the shell posterior to the anterior margin. Surface marked by many slender, raised, radiating threads which are less strong on the anterior portion than on the posterior and also much more closely spaced here than on the posterior part, except the extreme posterior portion, on which they are entirely absent. The spaces between these ribs are concaved and marked by very slender, irregular, slanting lines which give this portion of the shell a crinkly appearance. In addition to this sculpture, the whorls are marked by numerous feeble lines of growth.

The type, Cat. No. 186946, U.S.N.M., comes from Port Alfred (Coll. No. 316), and measures: Length, 36 mm.; altitude, 30 mm. This is probably what has been reported as *Standella solandri* Gray, a species occurring in the Moluccas. It differs from that species in being shorter and higher and in having many more ribs.

Genus **MACTRA** Linnaeus.

MACTRA AEQUISULCATA Sowerby.

Cat. No. 128350, U.S.N.M., one specimen from South Africa.

MACTRA ADANSONI Philippi.

There are four lots of this species in the collection of the United States National Museum, all from Port Alfred, as follows: Cat. No. 187166, two specimens (Coll. No. 713); Cat. No. 187167, one valve (Coll. No. 714); Cat. No. 251016, two additional valves (Coll. No. 1533); Cat. No. 251033, a very young valve (Coll. No. 1550).

MACTRA ALFREDENSIS, new species.

Plate 44, figs. 6, 7

Shell oval, compressed. Anterior dorsal margin passing in an almost straight line from the umbones to the extreme anterior portion, and then curving evenly to the evenly curved base. Posterior dorsal margin more feebly curved. Two radiating raised lines pass obliquely backward from the umbones; the second of these is a little more distant from the first than that is from the dorsal margin. The space inclosed by them is marked by numerous indistinct reticula-

which are closely spaced at the anterior end, becoming gradually more diffused posterior to the umbones. The junction of the radiating riblets with the lamellae, form slender cusps. Dorsal callus thick, strong, and decidedly reflected.

The type and two valves of this species (Cat. No. 186965, U.S.N.M., come from Port Alfred (Coll. No. 337). The type measures: Length, 41 mm.; altitude, 12 mm. Another specimen, Cat. No. 187177, U.S.N.M., comes from the same place (Coll. No. 728). This specimen is much stouter than the other, measuring: Length, 35 mm.; altitude, 17 mm.

This is the species which has been listed from South Africa as *Pholas fragilis* Sowerby, which is a Philippine shell coming from Bassy, Samar Island. I have material from the type-locality and find that this species differs from the present in being much thinner and much more strongly and distinctly sculptured, and altogether more elegant.

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LIST OF SPECIES COLLECTED BY LIEUT. COL. TURTON AT PORT
ALFRED, SOUTH AFRICA.

- | | |
|--|---|
| 1. <i>Argonauta argo</i> Linnaeus. | 45. <i>Conus caffer</i> Krauss. |
| 2. <i>Spirula peronii</i> Lamarck. | 46. <i>Conus guttatus</i> Kiener. |
| 3. <i>Cavolina longirostris</i> Lesueur. | 47. <i>Conus pictus</i> Reeve. |
| 4. <i>Cavolina globulosa</i> Rang. | 48. <i>Conus infrenatus</i> Reeve. |
| 5. <i>Styliola africana</i> Bartsch. | 49. <i>Conus bairstowi</i> Sowerby. |
| 6. <i>Actaeon albus</i> Sowerby. | 50. <i>Conus</i> , species? |
| 7. <i>Bullina scabra</i> Gmelin. | 51. <i>Clionella kraussi</i> Smith. |
| 8. <i>Acteocina smithi</i> Bartsch. | 52. <i>Clionella bipartita</i> Smith. |
| 9. <i>Acteocina</i> , species? | 53. <i>Clionella subventricosa</i> Smith. |
| 10. <i>Retusa truncatula</i> Bruguiere. | 54. <i>Clionella confusa</i> Smith. |
| 11. <i>Volvula</i> , species? | 55. <i>Clionella rosaria</i> Reeve. |
| 12. <i>Cylichna africana</i> Bartsch. | 56. <i>Clionella sybaritica</i> Bartsch. |
| 13. <i>Cylichna tubulosa</i> Gould. | 57. <i>Clionella nereia</i> Bartsch. |
| 14. <i>Bullaria ampulla</i> Linnaeus. | 58. <i>Clionella turtoni</i> Bartsch. |
| 15. <i>Bullaria</i> , species? | 59. <i>Clionella</i> , species? |
| 16. <i>Haminea alfredensis</i> Bartsch. | 60. <i>Clionella bornii</i> Smith. |
| 17. <i>Ringicula turtoni</i> Bartsch. | 61. <i>Clionella?</i> <i>platystoma</i> Smith. |
| 18. <i>Ringicula africana</i> Bartsch. | 62. <i>Clionella</i> , species? |
| 19. <i>Hydatina physis</i> Linnaeus. | 63. <i>Turris fultoni</i> Sowerby. |
| 20. <i>Cylindrobulla turtoni</i> Bartsch. | 64. <i>Clavatula taxus</i> Kiener. |
| 21. <i>Volvatella laguncula</i> Sowerby. | 65. <i>Clavatula halipler</i> Bartsch. |
| 22. <i>Tethys maculata</i> Rang. | 66. <i>Clavatula halistrepta</i> Bartsch. |
| 23. <i>Tethys concava</i> Sowerby. | 67. <i>Clavatula helena</i> Bartsch. |
| 24. <i>Tethys</i> , species? | 68. <i>Clavatula</i> , species? |
| 25. <i>Philine capensis</i> Bergh. | 69. <i>Drillia rousi</i> Sowerby. |
| 26. <i>Oxynoë natalensis</i> Smith. | 70. <i>Drillia caffra</i> Smith. |
| 27. <i>Melampus acinoides</i> Morelet. | 71. <i>Drillia signa</i> Bartsch. |
| 28. <i>Melampus</i> , species? | 72. <i>Drillia layardi</i> Sowerby. |
| 29. <i>Microtralia</i> , species? | 73. <i>Drillia diversa</i> Smith. |
| 30. <i>Siphonaria concinna</i> Sowerby. | 74. <i>Drillia bairstowi</i> Sowerby. |
| 31. <i>Siphonaria capensis</i> Quoy and Gaimard. | 75. <i>Drillia hottentota</i> Smith. |
| 32. <i>Siphonaria capensis lineolata</i> Krauss. | 76. <i>Drillia albonodulosa</i> Smith. |
| 33. <i>Siphonaria aspera</i> Krauss. | 77. <i>Drillia thetis</i> Smith. |
| 34. <i>Gadinia costata</i> Krauss. | 78. <i>Drillia nivosa</i> Smith. |
| 35. <i>Ampullarina africana</i> Smith. | 79. <i>Drillia subcontracta</i> Smith. |
| 36. <i>Terebra capensis</i> Smith. | 80. <i>Drillia praetermissa</i> Smith. |
| 37. <i>Terebra suspensa</i> Smith. | 81. <i>Drillia lara</i> Bartsch. |
| 38. <i>Terebra apicitincta</i> Sowerby. | 82. <i>Mangilia capensis</i> Smith. |
| 39. <i>Terebra</i> , species? | 83. <i>Mangilia dina</i> Bartsch. |
| 40. <i>Conus</i> , species? | 84. <i>Mangilia verrucosa</i> Sowerby. |
| 41. <i>Conus rosaceus</i> Chemnitz. | 85. <i>Mangilia gisna</i> Bartsch. |
| 42. <i>Conus aurora</i> Sowerby. | 86. <i>Mangilia consanguinea</i> Sowerby. |
| 43. <i>Conus lavendulus</i> Bartsch. | 87. <i>Mangilia nigra</i> Bartsch. |
| 44. <i>Conus alfredensis</i> Bartsch. | 88. <i>Mangilia helga</i> Bartsch. |
| | 89. <i>Mangilia?</i> <i>crassilirata</i> Smith. |

- Desmoulea abbreviata* Gmelin.
Bullia annulata Lamarck.
Bullia trifasciata Smith.
Bullia aepynota Bartsch.
Bullia lara Bartsch.
Bullia tenuis Reeve.
Bullia alfredensis Bartsch.
Bullia almo Bartsch.
Bullia callosa Wood.
Bullia, species?
Bullia pura Melvill.
Bullia diluta Krauss.
Bullia, species?
Bullia digitalis Meuschen.
Bullia rhodostoma Gray.
Bullia, species?
Bullia laevissima Gmelin.
Columbella (*Seminella*) *lightfooti* Smith.
Columbella (*Seminella*) *capensis* Smith.
Columbella (*Seminella*) *alfredensis* Bartsch.
Columbella (*Seminella*), species?
Columbella (*Anachis*) *beckeri* Sowerby.
Columbella (*Anachis*) *algoensis* Sowerby.
Columbella (*Anachis*) *kraussi* Sowerby.
Columbella (*Anachis*) *io* Bartsch.
Columbella (*Anachis*), species?
Columbella (*Anachis*), species?
Columbella (*Alia*) *pyramidalis* Sowerby.
Columbella (*Alia*) *adjacens* Smith.
Columbella (*Alia*) *albuginosa* Reeve.
Columbella (*Alia*) *apicata* Smith.
Columbella (*Alia*), species?
Columbella (*Alia*), species?
Alcira elegans H. Adams.
Alcira, species?
Alcira, species?
Murex uncinarius Lamarck.
Murex alfredensis Bartsch.
Trophon kowiensis Sowerby.
Trophon insignis Sowerby.
Trophon, species?
Trophon, species?
Tritonalia crawfordi Sowerby.
Tritonalia kieneri Reeve.
Tritonalia babingtoni Sowerby.
Thais capensis Petit.
Thais texturata Smith.
Thais castanea Kuster.
246. *Thais cataracta* Chemnitz.
 247. *Thais squamosa* Lamarck.
 248. *Latiaxis rosaceus* Smith.
 249. *Coralliophila rubrococcinea* Melvill and Standen.
 250. *Melapium bulbosum* Wood.
 251. *Epitonium africanum* Bartsch.
 252. *Epitonium tenebrosus* Sowerby.
 253. *Epitonium durbanense* Smith.
 254. *Epitonium lacteum* Krauss.
 255. *Epitonium aglaia* Bartsch.
 256. *Epitonium*, species?
 257. *Acrilla thalia* Bartsch.
 258. *Graphis africana* Bartsch.
 259. *Janthina communis* Lamarck.
 260. *Janthina globosa* Swainson.
 261. *Janthina trochoidea* Reeve.
 262. *Janthina exigua* Lamarck.
 263. *Janthina fragilis* Lamarck.
 264. *Melanella dilecta* Smith.
 265. *Melanella algoensis* Smith.
 266. *Melanella simplex* Sowerby.
 267. *Melanella carifa* Bartsch.
 268. *Melanella icafra* Bartsch.
 269. *Melanella alfredensis* Bartsch.
 270. *Melanella iota* Bartsch.
 271. *Melanella distincta* Smith.
 272. *Melanella langleyi* Sowerby.
 273. *Melanella farica* Bartsch.
 274. *Melanella thalia* Bartsch.
 275. *Melanella asser* Bartsch.
 276. *Melanella*, species?
 277. *Melanella acrifia* Bartsch.
 278. *Melanella*, species?
 279. *Melanella cifara* Bartsch.
 280. *Melanella irafca* Bartsch.
 281. *Subeulima magnifica* Bartsch.
 282. *Niso balteata* Sowerby.
 283. *Niso alfredensis* Bartsch.
 284. *Pyramidella* (*Orinella*) *africana*, Bartsch.
 285. *Pyramidella* (*Orinella*) *alfredensis* Bartsch.
 286. *Pyramidella* (*Orinella*) *ima* Bartsch.
 287. *Pyramidella* (*Actaeopyramis*) *norna* Bartsch.
 288. *Pyramidella* (*Syrnola*) *capensis* Sowerby.
 289. *Pyramidella* (*Syrnola*) *pyrrha* Bartsch.
 290. *Pyramidella* (*Syrnola*) *aganea* Bartsch.
 291. *Pyramidella* (*Syrnola*) *minor* Smith.
 292. *Pyramidella* (*Syrnola*), species?
 293. *Pyramidella* (*Syrnola*) *tarpeia* Bartsch.
 294. *Pyramidella* (*Syrnola*) *hera* Bartsch.

383. *Triphoris sabita* Bartsch.
 384. *Triphoris*, species?
 385. *Triphoris fuscescens* Smith.
 386. *Triphoris cerea* Smith.
 387. *Triphoris nina* Bartsch.
 388. *Triphoris ima* Bartsch.
 389. *Cerithiopsis* (*Cerithiopsis*) *alfredensis* Bartsch.
 390. *Cerithiopsis* (*Cerithiopsis*) *exquisita* Sowerby.
 391. *Cerithiopsis erna* Bartsch.
 392. *Cerithiopsis* (*Cerithiopsis*) *nina* Bartsch.
 393. *Cerithiopsis* (*Cerithiopsis*) *nisaba* Bartsch.
 394. *Cerithiopsis*, species?
 395. *Cerithiopsis* (*Cerithiopsis*) *saba* Bartsch.
 396. *Cerithiopsis*, species?
 397. *Seila alfredensis* Bartsch.
 398. *Seila africana* Bartsch.
 399. *Seila smithi* Bartsch.
 400. *Eumeta bia* Bartsch.
 401. *Cerithium contractum* Sowerby.
 402. *Cerithium vulgatum* Linnaeus.
 403. *Cerithium crassilabrum* Krauss.
 404. *Caecum glabratum* Montagu.
 405. *Vermicularia*, species?
 406. *Vermicularia*, species?
 407. *Siliquaria* (*Pyxipoma*) *weldi* Tenison-Woods.
 408. *Siliquaria*, species?
 409. *Turritella puncticulata* Sowerby.
 410. *Turritella carinifera* Lamarck.
 411. *Turritella annulata* Kiener.
 412. *Turritella kowiensis* Sowerby.
 413. *Turritella*, species?
 414. *Turritella*, species?
 415. *Littorina africana* Philippi.
 416. *Littorina africana tryphena* Bartsch.
 417. *Littorina knysnaensis* Krauss.
 418. *Littorina ahenea* Reeve.
 419. *Cithna africana* Bartsch.
 420. *Alaba pinnae* Krauss.
 421. *Alabina alfredensis* Bartsch.
 422. *Alabina africana* Bartsch.
 423. *Diala infrasulcata* Sowerby.
 424. *Diala africana* Bartsch.
 425. *Diala dubia* Sowerby.
 426. *Diala capensis* Bartsch.
 427. *Diala almo* Bartsch.
 428. *Heliacus africanus* Bartsch.
 429. *Heliacus*, species?
 430. *Nodulus perspectus* Smith.
 431. *Nodulus africanus* Bartsch.
 432. *Sabanaea pyrrha* Bartsch.
 433. *Sabanaea thalia* Bartsch.
 434. *Amphithalamus turtoni* Bartsch.
 435. *Amphithalamus africanus* Bartsch.
 436. *Alvania nemo* Bartsch.
 437. *Alvania farquhari* Smith.
 438. *Alvania alfredensis* Bartsch.
 439. *Alvania almo* Bartsch.
 440. *Alvania argentea* Sowerby.
 441. *Alvania fenestrata* Krauss.
 442. *Alvania ima* Bartsch.
 443. *Rissoina alfredi* Smith.
 444. *Rissoina cilia* Bartsch.
 445. *Rissoina*, species?
 446. *Rissoina eucosmia* Bartsch.
 447. *Rissoina*, species?
 448. *Microsetia conspecta* Smith.
 449. *Microsetia gisna* Bartsch.
 450. *Microsetia halia* Bartsch.
 451. *Microsetia helga* Bartsch.
 452. *Microsetia irma* Bartsch.
 453. *Barleeia smithi* Bartsch.
 454. *Fenella almo* Bartsch.
 455. *Jeffreysia caffra* Sowerby.
 456. *Jeffreysia capensis* Sowerby.
 457. *Assiminea orata* Krauss.
 458. *Assiminea umlaasiana* Smith.
 459. *Assiminea capensis* Bartsch.
 460. *Assiminea fasciata* Krauss.
 461. *Assiminea*, species?
 462. *Trochita helicoidea* Sowerby.
 463. *Trochita sinensis* Linnaeus.
 464. *Crepidula aculeata* Gmelin.
 465. *Crepidula hepatica* Deshayes.
 466. *Crepidula hepatica complanata* Krauss.
 467. *Crepidula lentiginosa* Sowerby.
 468. *Lamellaria perspicua*, Linnaeus.
 469. *Natica imperforata* Gray.
 470. *Natica alfredensis* Bartsch.
 471. *Natica forata* Reeve.
 472. *Natica africana* Bartsch.
 473. *Natica napus* Smith.
 474. *Natica decipiens* Smith.
 475. *Natica*, species?
 476. *Natica nemo* Bartsch.
 477. *Natica*, species?
 478. *Vanikoro africana* Bartsch.
 479. *Acmaea roseoradiata* Smith.
 480. *Patella granatina* Linnaeus.
 481. *Patella longicosta* Lamarck.

590. *Fossularia gibba* Krauss.
 591. *Fossularia gradata* Broderip and Sowerby.
 592. *Barbatia alfredensis* Bartsch.
 593. *Barbatia*, species?
 594. *Barbatia afra* Bartsch.
 595. *Pinna squamifera* Sowerby.
 596. *Atrina alfredensis* Bartsch.
 597. *Atrina afra* Sowerby (?).
 598. *Hochstetteria limoides* Smith.
 599. *Hochstetteria vilaini* Smith.
 600. *Hochstetteria alfredensis* Bartsch.
 601. *Hochstetteria paramoia* Bartsch.
 602. *Philobrya africana* Bartsch.
 603. *Margaritiphora capensis* Sowerby.
 604. *Ostrea algoensis* Sowerby.
 605. *Pecten natalensis* Smith.
 606. *Pecten sulcicostatus* Sowerby.
 607. *Plicatula squamosissima* Smith.
 608. *Lima perfecta* Smith.
 609. *Lima rotundata* Sowerby.
 610. *Lima africana* Bartsch.
 611. *Lima*, species?
 612. *Anomia ephippium* Linnaeus.
 613. *Anomia patelliformis* Linnaeus.
 614. *Mytilus meridionalis* Krauss.
 615. *Mytilus perna* Linnaeus.
 616. *Mytilus perna trigonia* Krauss.
 617. *Mytilus variabilis* Krauss.
 618. *Mytilus variabilis striata* Krauss.
 619. *Modiola tenerrima* Smith.
 620. *Modiola capensis* Krauss.
 621. *Modiola auriculata* Krauss.
 622. *Modiola lignea* Reeve.
 623. *Crenella striatissima* Sowerby.
 624. *Crenella alfredensis* Bartsch.
 625. *Modiolaria cuneata* Gould.
 626. *Modiolaria africana* Bartsch.
 627. *Modiolaria ima* Bartsch.
 628. *Solemya*, species?
 629. *Lyonsia*, species?
 630. *Thracia*, species?
 631. *Clistoconcha insignis* Smith.
 632. *Crassatellites acuminata* Sowerby.
 633. *Cuma concentrica* Bartsch.
 634. *Cardita* (*Carditamera*) *laticostata* Smith.
 635. *Venericardia elata* Sowerby.
 636. *Venericardia africana* Bartsch.
 637. *Thecalia concamerata* Bruguiere.
 638. *Miodontiscus minimus* Smith.
 639. *Condylocardia io* Bartsch.
 640. *Carditella rugosa* Sowerby.
 641. *Carditopsis alfredensis* Bartsch.
 642. *Digitaria africana* Bartsch.
 643. *Chama gryphina* Lamarck ?.
 644. *Lucina globosa* Forskal.
 645. *Loripes clausus* Philippi.
 646. *Phacoides naida* Smith.
 647. *Phacoides despecta* Smith.
 648. *Diplodonta cuneata* Bartsch.
 649. *Diplodonta almo* Bartsch.
 650. *Felaniella alfredensis* Bartsch.
 651. *Ungulina alfredensis* Bartsch.
 652. *Scintilla turtoni* Bartsch.
 653. *Basterotia tricostralis* Sowerby.
 654. *Erycina alfredensis* Bartsch.
 655. *Erycina ima* Bartsch.
 656. *Erycina carifa* Bartsch.
 657. *Erycina rifana* Bartsch.
 658. *Erycina*, species?
 659. *Erycina*, species?
 660. *Bornia fortidentata* Smith.
 661. *Bornia farica* Bartsch.
 662. *Bornia arfica* Bartsch.
 663. *Bornia* (*Pythina*) *rotundata* Deshayes.
 664. *Bornia* (*Pythina*) *africana* Bartsch.
 665. *Rochefortia similis* Smith.
 666. *Rochefortia natalensis* Smith.
 667. *Rochefortia enora* Bartsch.
 668. *Rochefortia elsa* Bartsch.
 669. *Rochefortia milda* Bartsch.
 670. *Rochefortia helena* Bartsch.
 671. *Rochefortia io* Bartsch.
 672. *Rochefortia farma* Bartsch.
 673. *Laea turtoni* Bartsch.
 674. *Aligena ovalis* Smith.
 675. *Cardium turtoni* Sowerby.
 676. *Papyridea* (*Fulvia*) *natalensis* Sowerby.
 677. *Dorinia hepatica* Lamarck.
 678. *Tivela compressa* Sowerby.
 679. *Sunetta ovalis* Sowerby.
 680. *Circe alfredensis* Bartsch.
 681. *Chione*, species?
 682. *Anomalocardia alfredensis* Bartsch.
 683. *Antigona verrucosa* Linnaeus.
 684. *Antigona* (?), species?
 685. *Paphia disrupta* Sowerby.
 686. *Venerupis*, species?
 687. *Petricola ponsonbyi* Sowerby.
 688. *Petricola*, species?
 689. *Tellina albinella alfredensis* Bartsch.
 690. *Tellina natalensis* Krauss.
 691. *Tellina ponsonbyi* Sowerby.
 692. *Tellina triangularis* Chemnitz.
 693. *Tellina regularis* Smith.



**MOLLUSKS REPORTED FROM SOUTH AFRICA NOT CONTAINED IN THE
COLLECTION OF THE UNITED STATES NATIONAL MUSEUM FROM
THAT AREA.**

In the following list have been cited all those species which have been reported from South Africa, which are not in the United States National Museum from that area. I have given the type-locality from which each species was first reported. If no locality follows the name, it signifies that none was given in the original description. Many of the species listed from South Africa belong to entirely different faunal areas, and the authors who reported them should very carefully compare their material with the species from the type-locality. They will probably find, as I have found in many instances, that their shells, while bearing a superficial resemblance to the South African mollusks, are not specifically the same.

Acanthochites variegatus Nierstrasz, Natal.

Acanthopleura afra Rochebrune, Cape of Good Hope; Madagascar.

quatrefagesi Rochebrune, Cape of Good Hope.

spinigera Sowerby.

Aclis tenuistriata Sowerby, Port Elizabeth.

Acrilla gracilis A. Adams, Indo Pacific.

Actaeon affinis A. Adams, China Seas; New Ireland; Borneo; Philippine Islands.

Agulhasia davidsoni King, Agulhas Bank.

Alvania pura Gould, Simoda.

Anatina villosiuscula Macquart, Island of Harris.

Ancilla angustata Sowerby, China Seas.

australis Sowerby, New Zealand.

cinnamomea Lamarck.

dimidiata Sowerby, Red Sea.

hastata Martens, Agulhas Bank.

lineolata A. Adams.

montrouzieri Sowerby, Lifu.

optima Sowerby, Durban.

ordinaria Smith, Port Shepstone.

Ancillaria contusa Reeve.

Anomia tridentata Forskal.

Aphelodoris ? brunnea Bergh, Kalk Bay.

Apicalia biformis Sowerby, Durban.

Aplusatrum amplustre Linnaeus, Asia.

Aplysia allochroa Bergh, Knysna.

cirrhifera Quoy and Gaimard, Isle of France.

depilans Linnaeus, Mediterranean Sea.

eusiphonata Bergh, East London.

gargantua Bergh, Simons Town.

Buccinum cerealis Menke, Cape of Good Hope.

clathratum Adams and Reeve, Cape of Good Hope.

coccinella Lamarck, Coasts of Brittany, France.

coronatum Bruguiere, Madagascar.

dunkeri Kuster, Cape of Good Hope.

flavum Bruguiere.

glaucum Gmelin, Indian Ocean.

horridum Dunker.

laevigatum Martini, East Indies.

lineatus DaCosta, Cornwall, England; West Indies.

marginulatum Lamarck, Mediterranean Sea.

marmoratum Reeve, Capul, Philippine Islands.

perdix Linnaeus, America.

perlatus Kuster, Natal Coast.

pictum Dunker, East Indies.

pyramidalis Gmelin, Tranquebar.

rubiginosum Reeve, Red Sea.

rufulum Kiener, Mediterranean Sea?

signata Dunker, East Indies.

situla Reeve, Annaan Island, Pacific Ocean.

testiculus Linnaeus, Jamaica.

violaceum Quoy and Gaimard, Table Bay.

Bulla aperta Linnaeus, Cape of Good Hope.

cylindracea Pennant, British Isles.

elongata A. Adams, Ceylon; Cebu.

ficus Linnaeus, Indian Ocean; Amboyna.

natalensis Krauss, Natal.

puncto-striata Mighels, Casco Bay, Maine.

rostrata A. Adams, Port Lincoln, Australia.

solidula Linnaeus.

soluta Gmelin, Ceylon.

spelta Linnaeus, Mediterranean Sea.

umbilicata Montagu, England.

voluta Quoy and Gaimard, Guam.

Bullia achatina Lamarck, South Africa.

ancillaeformis Smith, Port Shepstone.

capensis Euthyme, Cape of Good Hope.

mauritiana Gray, Madagascar.

mediolaevis Martens, False Bay.

pustulosa Sowerby, Natal.

similis Sowerby, Natal.

Bullina oblonga Sowerby, Pondoland.

Calliostoma bisculptum Smith, Durban.

burnupi Smith, Durban.

crossleyae Smith, Isezela, Natal; Port Shepstone.

farquhari Sowerby, Port Elizabeth.

granoliratum Sowerby, Cape Point, False Bay.

iridescent Sowerby, Cape Natal.

layardi Sowerby, Pondoland.

perfragile Sowerby, Vasco da Gama Peak; Lion's Head.

Callochiton dentatus Spengler, Cape of Good Hope.

Calyptraea cicatricosa Reeve, Luzon, Philippine Islands.

vorosa Reeve, Australia.

- Cerithium rissoides* Sowerby.
rufonodulosum Smith, Algoa Bay.
rugosum Wood.
taeniatum Sowerby, New Guinea.
trilineatum Philippi, Pantellaria Island.
zebrum Kiener, Indian Ocean; Isle of France.
- ?*Chaetopleura apiculata* Say, East Coast North America.
destituta Sykes, Durban.
papilio Spengler, Table Bay.
- Chama gryphoides* Linnaeus, Mediterranean Sea.
iostoma Conrad, Hawaiian Islands.
- Chemnitzia lactea* Krauss, Natal.
trachealis Gould, Simons Bay.
- Chione ambigua* Deshayes, Mozambique.
- Chiton africana* Rochebrune, Dakar; Cape Verde; Table Bay; Cape of Good Hope.
brevispinosus Sowerby, Johanna Island, East Africa.
capensis Gray, Cape of Good Hope.
carmichaelis Gray, Cape of Good Hope.
granulatus Gmelin, American Oceans.
indicus Sowerby, Cape of Good Hope.
labeculatus Reeve.
literatus Krauss, Natal.
lyratus Sowerby.
macgillivrayi Carpenter, Tristan d'Acunha.
marginatus Pennant, Scarborough.
nigrovirescens Blainville, Cape of Good Hope.
pertusus Reeve, Simons Bay.
pruinatus Gould, Off Fort Santa Cruz, Rio Janeiro.
punctulata Krauss, South Africa.
pustulatus Krauss, Natal.
solea Sowerby, Cape of Good Hope.
spiculosus Reeve, West Indies.
subgigas Blainville.
sykesi Sowerby, Cape Point Lighthouse; Vasco da Gama Peak.
textilis Gray, Cape of Good Hope.
wahlbergi Krauss, Table Bay.
watsoni Sowerby, Cape of Good Hope.
- Chitonellus striatus* Lamarck (?), New Holland.
- Chlamys fultoni* Sowerby, Amatikulu, Conical Hill.
gilchristi Sowerby, Vasco da Gama.
humilis Sowerby, Great Fish Point; Cape St. Blaize.
natalensis Smith, Durban.
- Chromodoridella mirabilis* Eliot, Natal.
- Chromodoris albolimbata* Bergh, Off Sebastian Bluff.
annulata Eliot, Zanzibar.
euelpis Bergh, Off Umhloti River, mouth.
- Chromodoris* (?) *lineata* Souleyet, East Africa.
runcinata Bergh, Philippine Islands.
- Cingulina acutilirata* Sowerby, Port Elizabeth.
circinata A. Adams, Japan.
- Cioniscus unilineatus* Sowerby, Port Elizabeth.
- Circe divaricata* Chemnitz, Ceylon.

Conus fulvus Sowerby, South Africa.

geographus Linnaeus, India.

gilchristi Sowerby, Umhlangakulu River, mouth, Natal.

gilvus Reeve, Saldanha Bay, South Africa.

glans Bruguiere, St. Bernard, coast of Africa; Madagascar; Isle of France, Moluccas.

gradatulus Weinkauff, Agulhas Bank, South Africa.

hebraeus Linnaeus, India.

innexus A. Adams, Natal

jaspideus Kiener, Algoa Bay, South Africa.

lamarcki Kiener.

lautus Reeve.

legatus Lamarck, Indian Ocean.

lineatus Chemnitz, East Indies.

lividus Lamarck, Indian Ocean.

loveni Krauss, Cape of Good Hope; Natal.

miles Linnaeus, India.

miliaris Hwass.

minimus Linnaeus.

mozambicus Hwass, Mozambique.

natalensis Sowerby, Cape Natal.

nemocanus Hwass, Namoca Island.

nimbosus Hwass, East Indies.

obscurus Humphreys, Masbate, Philippine Islands.

patens Sowerby, Vasco da Gama Peak, Cape of Good Hope.

pauperculus Sowerby, Cape of Good Hope.

piperatus Dillwyn, Indian Ocean.

plumbeus Reeve.

primula Reeve.

punctatus Gmelin.

queketti Smith, Natal.

quercinus Bruguiere, Isle of France; Madagascar; Cape of Good Hope.

rattus Lamarck, America.

scitulus Reeve.

simplex Sowerby, East Indies.

tessellatus Born, African Ocean.

textile Linnaeus, Bandam.

tinianus Hwass, Tinian Island.

turritus Sowerby, Agulhas Bank, South Africa.

vermiculatus Lamarck, Asia; Africa; America.

verreauxii Kiener, Cape of Good Hope.

vexillum Gmelin.

Coralliophila fragosa Smith, Scottburgh, Natal.

fritschi Martens, False Bay, Cape of Good Hope.

Corbula cuneata Hinds, Catbalogan, Philippine Islands; Agulhas Bank; Cape of Good Hope.

rugifera Smith, Umkomaas, Natal.

tunicata Hinds, Island of Corregidor, Bay of Manila; Straits of Macassar; Cape of Good Hope.

Crassatella abrupta Sowerby, Umhloti River, mouth.

africana Sowerby, Cape Infanta.

angulata Sowerby, Umhlangakulu River, mouth.

crebrilirata Sowerby, Agulhas Bank, South Africa.

gilchristi Sowerby, Martha Point (South Coast).

annulus Linnaeus, Amboyna.
arabica Linnaeus, East Indies; Sunda Strait.
barclayi Reeve, Mauritius.
caput-serpentis Linnaeus, Mauritius.
carneola Linnaeus, Asia.
caurica Linnaeus.
clandestina Linnaeus.
costata Gmelin.
cribraria Linnaeus.
cruenta Gmelin.
erosa Linnaeus, Mauritius and Ascension Islands.
felina Gmelin.
fultoni Sowerby, South Africa.
fuscodentata Gray, Cape of Good Hope.
helvola Linnaeus.
isabella Linnaeus, Mauritius; Madagascar.
lamarchii Gray, Indian Ocean.
listeri Gray, Bengal.
lynx Lamarck, coasts of Madagascar; Isle of France
miliaris Gmelin.
minorideus Melvill, Pacific Ocean?
moneta Linnaeus, Mediterranean Sea (shores of Africa)
nebulosa Kiener, Cape of Good Hope.
neglecta Sowerby (Mauritius; Borneo)?
ocellata Linnaeus.
ovulata Lamarck.

- Cypraea producta* Gaskoin.
quadripunctata Gray.
staphylaea Linnaeus
stercus-muscarum Lamarck.
stolida Linnaeus.
sulcata Gaskoin, Manila, Philippine Islands.
tabescens Solander, Amboyna.
tortirostris Sowerby, The Kowie.
undata Lamarck, Indian Ocean.
variolaria Lamarck, Indian Ocean.
vitrea Gaskoin, Philippine Islands.
riczac Linnaeus.
- Cypricardia angulata* Lamarck, Seas of New Holland.
Cyrena africana Krauss, Gauritz River, South Africa.
albida Krauss, South Africa.
gauritziana Krauss, Gauritz River, South Africa.
olivacea Krauss, Gauritz River, South Africa.
pusilla Parreyss, upper Nile.
radiata Parreyss, branch of the Nile.
- Cytherea alucinans* Sowerby, Natal.
compressa Sowerby, Cape of Good Hope.
dolabella Sowerby, Red Sea.
hebraea Lamarck, Indian Ocean?
hepatica Lamarck, Eastern Seas (les mers Australes?).
manillae Sowerby, Philippine Islands.
nucleus Krauss, Natal.
picta Lamarck, Indian Ocean.
polita Sowerby.
savignyi Jonas, Red Sea.
subquadrata Krauss, Knysna River, South Africa.
transversa Sowerby, Natal.
zonaria Lamarck, Indian Ocean.
- Daphnella minuscula* Smith, 4 miles south of Port Elizabeth; Port Alfred.
Delphinula granulosa Dunker, Table Bay, South Africa.
- Dentalium africanum* Sowerby, Natal.
belcheri Sowerby, East Indian Archipelago.
dentalis Linnaeus, Mediterranean.
glabrum Montagu, England.
inflexum Sowerby, Natal.
lessoni Deshayes, New Guinea.
longitrosum Reeve, Philippine Islands.
novemcostatum Lamarck, France; Mediterranean.
politum Linnaeus, India.
- Diaulula capensis* Bergh, Mossel Bay.
Diaulula (?) *morosa* Bergh, Mossel Bay.
Dione floridella Gray, Africa; Guinea Coast.
Diphyllidia lineata Otto, Indian Ocean.
Dolabella rumphii Cuvier, Moluccas.
scapula Martyn, Amboyna.
- Dolabryfera triangularis* Watson, Simons Bay; Cape of Good Hope.
Dolium costatum Menke, Mediterranean.
javannii Hanley.
sinbriatum Sowerby, Manila Bay.
luteostoma Kuster, Japan; Philippine Islands.

Euplocamus capensis Bergh, South Africa.

Euthria eburnea Sowerby, Pondoland.

filmerae Sowerby, Pondoland.

lacertina Gould, Simons Bay.

magellani Velain, St. Paul and Amsterdam.

pura Martens, South Africa.

quetetti Smith, Natal (10 miles from Durban).

simoniana Petit, Simons Bay.

Fusciolaria badia Krauss, Natal.

filamentosa Lamarck, Indian Ocean.

lugubris Adams and Reeve, Cape of Good Hope.

rutila Watson, Cape of Good Hope.

Penella cerithina Philippi, Red Sea.

fulgida A. Adams, British.

natalensis Smith, Catos Creek, near Durban.

Fisurella australis Krauss, Natal.

caffa Gmelin, Cape of Good Hope.

conoidea Reeve, Cape of Good Hope.

cruciata Krauss, Natal.

dubia Reeve, Port Natal.

fimbriata Reeve, Port Molle, northeast coast of Australia.

fumata Reeve.

incarnata Krauss, Table and False Bays, Natal.

neglecta Deshayes, Mediterranean and Adriatic Seas.

nubecula Linnaeus, Mediterranean Sea.

obtusa Sowerby, Cape of Good Hope.

robusta Sowerby, South Africa.

rota Reeve, Cape of Good Hope.

sagittata Reeve, Cape of Good Hope.

scutella Say, Raine Island; Torres Strait.

sieboldi Reeve, Japan.

similis Sowerby, Australia.

trapezina Krauss, Cape of Good Hope.

Fisurellidea concatenata Cross and Fischer, Port Lincoln.

hiantula Lamarck, Indian Ocean.

Fistulana gregata Lamarck.

Fossarus capensis Pilsbry, South Africa.

Fulgur africanus Sowerby, Port Elizabeth.

Fusus capensis Dunker, Cape of Good Hope.

clausicaudatus Hinds, Cape of Good Hope.

crenulatus Sowerby, Cape of Good Hope.

lineolatus Dunker, Cape of Good Hope.

mandarinus Duclos, China Sea.

pyrrhostoma Watson, off Cape of Good Hope.

radialis Watson, off Cape of Good Hope.

robustior Sowerby, Cape of Good Hope.

scrobiculatus Dunker, Cape of Good Hope.

subcontractus Sowerby, Cape Natal.

sulcata Gray.

toreuma Martyn, Pulo-Condore.

Gadinia afra Gmelin, Goree Island, Africa.

Geitodoris capensis Bergh, Glendower Beacon.

Gibbula armillata A. Adams, Australia.

beckeri Sowerby, The Kowie.

- Limopsis natalensis* Krauss, Natal.
- Liotia bicarinata* Martens, near Agulhas Bank, South Africa.
pulcherrima A. Adams, Cape of Good Hope.
- Lippistes carnu* Gmelin, Cape of Good Hope.
- Littorina aspera* Philippi, America.
decollata Krauss, Natal.
glabrata Philippi, Payta, Peru, and Cape Natal.
intermedia Philippi, Red Sea; Natal; Swan Point; New Holland; Pacific Ocean.
laevis Philippi.
natalensis Krauss, Natal.
newcombi Reeve, Hawaiian Islands.
pintado Wood, Hawaiian Islands.
punctata Deshayes, Senegal.
riczac Chemnitz, Sugar Islands?
- Loligo burnupi* Smith, Port Shepstone.
reynaudi Orbigny, Atlantic Ocean; Cape of Good Hope.
- Loripes rosacea* Smith, Durban.
- Lotorium cingulatum* Lamarck.
decipiens Reeve, Mindanao.
durbanense Smith, Durban.
gracile Reeve, Philippine Islands.
nassariforme Sowerby, Natal.
ranelloides Reeve, Luzon, Philippine Islands.
- Lucina columbella* Lamarck, Touraine and Bordeaux (fossil).
dalliana Vanatta, South Africa.
exasperata Reeve, Indian Ocean.
fragilis Philippi, Panormi, Bay of Naples.
lactea Lamarck, Mediterranean.
liratula Sowerby, South Africa.
pecten Lamarck, Senegal
quadrisulcata Orbigny.
- Luponia castanea* Higgins, Southeastern Africa.
- Lutraria intermedia* Sowerby, British?
oblonga Chemnitz.
- Macoma retrorsa* Sowerby, Durban.
- Macrochisma compressa* A. Adams.
producta A. Adams, Australia.
- Mactra achatina* Chemnitz, Tranquebar?; Ceylon?; Nicobar?
australis Lamarck, Seas of New Holland.
capensis Sowerby, Port Elizabeth.
glabrata Linnaeus, African Ocean?
ovalina Lamarck, Indian Ocean.
polita Chemnitz, East Indies.
- Malleus legumen* Reeve, Philippine Islands.
tigrinis Reeve, Moluccas.
- Mangilia africana* Sowerby, Umhloti River, mouth (Natal).
beckeri Sowerby, The Kowie.
casta Reeve.
cera Carpenter?, Panama.
clathrata de Serris, Mediterranean.
costata Donovan, England.

Mitra aerumnosa Melvill, Algoa Bay, South Africa.

alauda Sowerby, Mauritius.

bovei Kiener, Red Sea.

cadaverosa Reeve, Philippine Islands; Lord Hoods Islands.

carbonacea Hinds, Cape of Good Hope.

chinensis Gray, China.

circula Kiener.

cratilia A. Adams, South Africa.

crenifera Lamarck, Indian Ocean.

crenulata Lamarck, Indian Ocean.

cylindracea Reeve.

daedala Reeve, Ticao, Philippine Islands.

episcopalis Linnaeus.

exasperata Gmelin, Indian Ocean.

flammea Quoy, Moluccas.

flammigera Reeve.

fuscescens Pease, Hawaiian Islands.

interlirata Reeve, Masbate, Philippine Islands.

limbifera Lamarck.

litterata Lamarck, Indian Ocean.

luctuosa A. Adams, Mauritius.

obeliscus Reeve, Negros, Philippine Islands.

paupercula Linnaeus, Philippine Islands.

pecta Reeve.

pica Reeve.

pretiosa Reeve.

punctostriata A. Adams, Ceylon.

rufescens A. Adams, China Seas.

schroeteri Dillwyn.

texturata Lamarck.

zephyrina Duclos, Mauritius.

Modiola cylindrica Krauss, Natal.

elegans Gmelin, West Africa.

mucronata Philippi, Java.

petagnae Scacchi, Malta.

rhomboidea Hanley, The Gambia, West Africa; Tugela River, South Africa.

Modiolaria cumingiana Dunker, Australia.

marmorata Forbes, British.

Monodonta australis Deshayes, New Holland.

Monoptygma casta A. Adams, China Seas.

Montacuta capensis Sowerby, South Africa.

natalensis Smith, Umkomaas, Natal.

Mormula macandreae A. Adams, Gulf of Suez.

rissoina A. Adams, Japan.

Murex aricornis Lamarck, Moluccas.

banksii Sowerby, Moluccas.

brevispina Lamarck.

capensis Sowerby, Cape of Good Hope.

concatenatus Lamarck, Isle of France.

dunkeri Krauss, Cape of Good Hope.

fallax Smith, Natal (10 miles from Durban).

mitraeformis Sowerby.

polygonus Gmelin, Indian Ocean.

- Natica mamilla* Lamarck, Indian Ocean.
marochiensis Gmelin, Africa; Morocco; Antilles.
psila Watson, off Cape of Good Hope.
pygmaea Philippi
sagraiana Orbigny, Cuba.
sebae Souleyet.
simplex Sowerby, South Africa.
taeniata Menke.
zanzibarica Recluz, Zanzibar.
- Neaera capensis* Smith, Cape of Good Hope.
Nembrotha capensis Bergh, Kalk Bay.
Neocardia angulata Sowerby, Port Elizabeth.
Neptuneopsis gilchristi Sowerby, Cape of Good Hope.
Nerita aterrima Gmelin, Philippine Islands.
comma-notata Reeve, West Indies.
exuvia Linnaeus, America; Asia.
fasciata Krauss, Natal coast.
listeri Recluz, West Indies.
melanostoma Gmelin, Indian Ocean.
papilla Gmelin, Tranquebar.
plexa Chemnitz, Tranquebar.
plicata Linnaeus.
polita Linnaeus, Asia.
quadricolor Gmelin, Red Sea.
sanguinolenta Menke, Philippine Islands; Mauritius.
textilis Gmelin.
umlaasiana Krauss, Knysna River.
- Neritina crepidularia* Lamarck.
natalensis Reeve, Natal.
zebra Lamarck, Central America.
- Niso interrupta* Sowerby, Central America.
- Nucula belcheri* Hinds, Cape of Good Hope.
bicuspidata Gould, Liberia.
irregularis Sowerby, Struis Point.
pulchra Hinds, Cape of Good Hope.
radiata Forbes and Hanley, British.
- Nuculana compta* Sowerby, Cape Natal.
gemmulata Sowerby, mouths of Tugela and Umhlote Rivers.
lamellata Sowerby, Cape Natal.
- Nuculina ovalis* Smith, Cape of Good Hope.
pretiosa Gould, Simons Bay.
- Obeliscus aciculatus* A. Adams, Philippine Islands.
sulcatus A. Adams, Tahiti.
teres A. Adams, Philippine Islands.
- Ocenebra natalensis* Smith, Umkomaas and Port Shepstone.
- Octopus argus* Krauss, Natal.
vulgaris Lamarck, European seas.
- Odostomella robusta* Sowerby, The Kowie.
- Odostomia angasi* Tryon, Australia.
chitonicola Smith, Umkomaas, Natal.
- Olivia bulbosa* Marrat.
caerulea Bolten.
capensis Sowerby, Cape of Good Hope.

Paludina knysnaensis Krauss, Knysna River and Zootendals Valley.

Pandora dissimilis Sowerby, Sea Point, Cape Town.

similis Sowerby, Durban.

Panopea natalensis Woodward, Port Natal.

Paraplysia lowii Gilchrist.

Parmophorus imbricatus Quoy, New Ireland.

Patella albonotata Smith, Umkomass, Natal.

chinensis Linnaeus, Mediterranean.

concolor Krauss, Natal.

decemcostata Smith, Algoa Bay.

echinulata Krauss, Table Bay.

exarata Nuttall, California.

fasciata Krauss, Natal.

graeca Linnaeus, Mediterranean.

maculata Blainville, Cape of Good Hope.

morbida Reeve, Cape of Good Hope.

natalensis Krauss, Natal.

nigroalba Blainville, Cape of Good Hope.

oblecta Krauss, Table Bay.

patriarcha Pilsbry, Cape of Good Hope.

plicata Born, Strait of Magellan.

radiata Krauss, Natal.

rustica Linnaeus.

safiana Lamarck, Morocco.

sanguinans Reeve, Cape Natal.

- Patella xthroeteri* Krauss, Shore of Elim and Saldanha Bay.
tabularis Krauss, Table Bay.
testudinaria Linnaeus.
umbella Gmelin, Africa.
- Pecten capensis* Gray, Cape of Good Hope; Port Elizabeth.
limatula Reeve.
squamosus Gmelin.
tinctus Reeve.
- Pectunculus belcheri* Adams and Reeve, Cape of Good Hope.
bicolor Reeve, Gulf of California.
castaneus Lamarck, American Seas.
inaequalis Sowerby, Panama; Real Dejos.
- Pedicularia sicula* Swainson.
- Peristernia fenestrata* Gould, Simons Bay, Cape of Good Hope.
- Perna anomioides* Reeve, California.
dentifera Krauss, Natal.
vulsella Lamarck, Seas of India; America.
- Petalocochus octosectus* Carpenter.
- Petricola cordieri* Deshayes, California.
cultellus Deshayes, Ceylon.
robusta Sowerby, Panama.
typica Jonas, St. Thomas Island.
ventricosa Krauss, Natal.
- Phasianella kraussi* Smith, Kalk Bay; False Bay, Cape of Good Hope.
tenuis Philippi, Sicily.
- Philine berghi* Smith.
- Pholas branchiata* Gould, Liberia.
dactylus Linnaeus, Europe.
falcata Reeve, Hudson Bay.
fragilis Sowerby, Samar, Philippine Islands.
- Phorus corrugatus* Reeve.
- Phos laevigatus* A. Adams, China.
roseatus Hinds, Sumatra.
- Photina nigra* A. Adams.
- Physopsis africana* Krauss, Port Natal.
- Pileopsis pilosus* Deshayes.
- Pinaxia coronata* A. Adams, Philippine Islands.
- Pinna aequilatera* Martens.
madida Reeve, Port Essington, New Holland.
natalensis Smith, Durban.
pernula Chemnitz, St. Croix (West Indies).
saccata Linnaeus, Mediterranean; East Indies?
serra Reeve, Moreton Bay.
squamosissima Philippi, South Carolina.
vexillum Born.
- Pisania crenilabrum* A. Adams, West Indies.
tritonoides Reeve, Ticao, Philippine Islands.
- Planaxis acuta* Krauss, Natal.
sulcatus Quoy and Gaimard, Amboyna and Mauritius.
- Plaziphora parva* Nierstrasz, Mozambique.
setigera King, Cape Horn.
- Pleurobranchaea melanopus* Bergh, off Cape Point.
- Pleurobranchus capensis* Vayssiére, Cape of Good Hope.
granulatus Krauss, False Bay, Cape of Good Hope.

Purpura anaxares Duclos.

- arachnoides* Lamarck, Indian Ocean.
- bufo* Lamarck, Seas of India ?
- cancellatum* Quoy and Gaimard, Tonga Labu.
- cingulata* Linnaeus, Iceland.
- clathrata* Blainville, Cape of Good Hope.
- dubia* Krauss, Cape of Good Hope.
- elata* Blainville, New Holland.
- facellum* Lamarck, China Seas.
- granulata* Duclos, New Holland.
- heptagonalis* Reeve, Panama.
- lapillus* Lamarck, Seas of Europe.
- luteostoma* Deshayes.
- mancinella* Lamarck, East Indian Seas.
- marginatum* Blainville, New Hebrides.
- ovalis* Blainville, Cape of Good Hope.
- persica* Lamarck, Oceans of India.
- pura* Smith, Umkomaas.
- rudolphi* Lamarck, Oceans of India.
- scobina* Quoy, New Zealand.
- succincta* Lamarck, Seas of New Zealand.
- trigona* Reeve, China and Malacca.
- verillum* Lamarck, Indian Ocean.
- wahlbergi* Krauss, Natal.
- zeyheri* Krauss, Cape of Good Hope.

Pyramidella mitralis A. Adams, Philippine Islands.*Pyrazus palustris* Bruguiere, East Indies; Australia.*Pyrula ficoides* Lamarck.*lineata* Lamarck.*paradisiaca* Reeve, Ceylon; Mozambique.*Radius gracillimus* Smith, near Durban.*Raeta pellicula* Deshayes, Japan.*Ranella affinis* Broderip, Annoa Island, Pacific Ocean.*anceps* Lamarck.*crumena* Lamarck, India ?*granifera* Lamarck.*lamellosa* Dunker, Japan.*leucostoma* Lamarck, New Holland.*livida* Reeve, Annoa Island, Pacific Ocean.*pusilla* Broderip, Pacific Ocean (Lord Hoods Island).*semigranosa* Lamarck.*siphonata* Reeve, Philippine Islands.*Rapana nodosa* A. Adams, Philippine Islands.*Ricinula aspera* Lamarck.*morus* Lamarck, Isle of France.*muticus* Lamarck.*Rissoa adjacens* Smith, 4 miles south of Port Elizabeth.*crawfordi* Smith, Algoa Bay.*elegantula* Angas, Aldinga Bay.*farquhari* Smith, 4 miles south of Port Elizabeth.*nigra* Krauss, Algoa and Table Bays.*Rissoina ambigua* Gould, Clermont, Tonnere Island.*annulata* Dunker, Japan.*crassa* Angas, Port Jackson.

- Sistrum squamiliratum* Smith, Isipingo.
squamosum Pease, Kingsmill Islands.
- Solariella beckeri* Sowerby, The Kowie.
infundibulum Watson, Agulhas Bank, South Africa.
perculpta Sowerby, Cape Natal.
sculpta Sowerby, Durban.
splendens Sowerby, Natal.
undata Sowerby, Agulhas Bank, South Africa.
- Solarium caelatum* Hinds, *cancellatum* Krauss, Algoa Bay.
cingulum Kiener, Indian Ocean.
cylindraceum Dillwyn, West Indies.
dorsuosum Hinds, Philippine Islands.
laevigatum Lamarck.
maximum Philippi.
trochoides Deshayes, Philippine Islands.
variegatum Gmelin.
- Solen corneus* Lamarck, Java.
gouldi Conrad, America?
legumen Linnaeus, Mediterranean Sea.
marginatus Koch, Africa.
regularis Dunker, Malacca.
rosea Gmelin, Red Sea.
sloanei Gray.
vespertina Gmelin, Atlantic Ocean; Mediterranean Sea.
- Solenomya togata* Poli.
- Solidula tessellata* Reeve, Red Sea.
- Sphenia decurtata* A. Adams, Luzon; Catanuan, Tayabas Province, Philippine Islands.
mindorensis Adams and Reeve, Mindoro.
natalensis Smith, Durban.
philippinarum A. Adams, Sibunga, Zebu; Manila Bay, Luzon.
- Spiroglyphus spirorbis* Sowerby.
- Spirula solandri* Gray.
- Spondylus ducalis* Chemnitz, East Indies.
nicobaricus Chemnitz, Nicobar Islands.
- Staurodoris verrucosa* Bergh, St. James.
- Stomatella articulata* A. Adams, Australia; Lord Hoods Island; South Seas.
cancellata Krauss, Table Bay.
sulcifera Lamarck, Seas of New Holland.
- Strigilla trotteriana* Sowerby, Durban.
- Strombus floridus* Lamarck, Indian Ocean; Moluccas.
fusiformis Sowerby.
gibberulus Linnaeus, Asia.
lamarckii Gray, East Indies.
lentiginosus Linnaeus, Asia.
mauritanus Lamarck, Mauritius.
- Sunetta contempta* Smith.
- Tapes cumingii* Sowerby, Philippine Islands.
dactyloides Sowerby, Luzon.
deshayesi Hanley, Philippine Islands.
kochi Philippi.
kraussi Deshayes, Port Natal.
pullastra Montagu, Devonshire.
textrix Chemnitz, Malabar.

Trebra laevigata Gray.*livida* Reeve, Philippine Islands.*loisae* Smith, Umkomaas, Natal.*longiscata* Deshayes, Philippine Islands.*macandrewii* Smith, Persian Gulf.*monilis* Quoy and Gaimard, Mariana and Caroline Islands.*natalensis* Smith, Umkomaas, Natal.*nebulosa* Sowerby.*pertusa* Born.*raphanula* Lamarck.*rufopunctata* Smith.*straminea* Gray.*subulata* Lamarck, Indian Ocean.*textilis* Hinds, Bay of Manila, Philippine Islands; Strait of Macassar.*thyrsaea* Melvill, Karachi; Mekran coast.*tiarella* Deshayes, Cape Natal.*Uthys burnupi* Burne, Durban.*elongata* Pease, Hawaiian Islands.*nigrocincta* Martens.*operta* Burne.*Urdia punctulifera* Bergh, False Bay.*vacua capensis* Sowerby, South Africa.*ylacodes natalensis* Mörch, Natal.*chogonia kraussii* Kuster, Natal.*vela natalensis* Dunker, Natal.*rejecta* Smith, South Africa.*matella suturalis* A. Adams, Japan; Puerto Galero; Mindoro.*matina meridionalis* Smith, Natal.*idacna elongata*? Philippine Islands.*iphora burnupi* Smith, Durban.*carteretensis* Hinds, Port Carteret, New Ireland.*cingulatus* A. Adams, Red Sea.*corrugatus* Hinds, New Guinea; Straits of Malacca.*iopa lucida* Stimpson, Simons Bay; Cape of Good Hope.*iton acuminata* Reeve, China.*aegrola* Reeve, China.*africana* A. Adams, Africa?*anus* Lamarck, Indian Ocean.*aquatilis* Reeve, Ticao, Philippine Islands.*australe* Lamarck, near Botany Bay, New Holland.*bractaeus* Hinds, Marquesas; New Ireland; Straits of Malacca.*chlorostoma* Lamarck, Antilles.*cutaceus* Linnaeus.*cynocephalum* Lamarck.*elongatum* Reeve, Philippine Islands.*encausticum* Reeve, Ticao, Philippine Islands.*exaratus* Reeve, New Holland.*ficilis* Hinds, Cape of Good Hope.*gallinago* Reeve, Mindanao, Philippine Islands.*gemmatus* Reeve, Ticao, Philippine Islands.*labiosus* Wood.*lampas* Lamarck, Seas of India.*monilifer* Adams and Reeve, Eastern Seas.*nitidulus* Sowerby, Port Elizabeth.*nodiferus* Lamarck, Atlantic Ocean; Mediterranean Sea.

oblongus Wood.
crassus Linnæus.
peruvianus Linnæus. Mediterranean.
pinnatus Philippi. New Zealand.
rostratus Gmelin. Cape of Good Hope.
aculeatus Linnæus.
terrestris Dunker. Cape of Good Hope. Guinea.
terrestris Reeve. Cape of Good Hope.
trachylepis Philippi. South Africa.
variegatus Anton.
verruculatus Fischer.
virgatus Gmelin. India.
viridis Krauss. Cape of Good Hope.
Trophon curvatus Broderip. Pacomayo Peru.
Turbonilla incarnata Reeve. Philippine Islands.
umbellata Linnæus.
Turbo caryostomus Linnæus. Asia.
ciacrus Linnæus. Europe America.
lanceus Watson. Maraku Fiji Islands.
maroccanus Menke. Indian Ocean.
lanceus Linnæus. Mediterranean.
musculus Sowerby. South Africa.
pilula Dunker. Japan.
ponsonbyi Sowerby. Durban.
serpentinus Linnæus. Algeria.
splendens Sowerby.
tridentatus Eulhyus. Saint Elizabeth and Cape of Good Hope.

- Turbonilla argentea* Sowerby, Port Elizabeth.
bifasciata A. Adams, Australia; Japan.
candida A. Adams, Japan.
disculus Velain, St. Paul Island, Indian Ocean.
fusca A. Adams, Port Lincoln.
hofmani Angas, Australia?
rufa Philippi, British?
scalaris Philippi, British?
similans Smith, South Africa.
- Turritella bacillum* Kiener, seas of India and China.
declivis Adams and Reeve, China Sea.
excavata Sowerby, Agulhas Bank.
natalensis Smith, Bluff, Durban; Isezela.
- Typhis arcuatus* Hinds, Cape of Good Hope.
- Umbrella indica* Lamarck, Indian Ocean; Isle of France.
- Urosalpinx* ? *contracta* Reeve, Samar.
- Vanikoro deshayesiana* Recluz, Philippine Islands.
gueriniana Recluz, Philippine Islands.
ligata Récluz, Luzon.
- Venerupis lajonkairi* Payer., Corsica.
rugosa Reeve, Swan River, South Africa.
- Venus abbreviata* Krauss, Natal Bay.
africana Mühlfeld., Cape of Good Hope.
corrugatus Gmelin, Mediterranean.
declivis Sowerby, Eastern Seas.
geographica Gmelin, Mediterranean.
intersculpta Sowerby, Algoa Bay.
latilirata Sowerby, Durban.
layardi Reeve, Ceylon.
listeri Gray, East Indies.
malonei Vanatta, South Africa.
obsoleta Chemnitz, Mediterranean.
paupercula Chemnitz, Coromandel Coast.
pectinata Linnaeus, India.
sulcaria Lamarck, Moluccas; Indo-Pacific?
- Vermetus conicus* Dillwyn, West Indies.
nebulosus Dillwyn, West Indies.
tricuspe Mörch, Australia.
- Voluta abyssicola* Adams and Reeve, Cape of Good Hope.
armata Lamarck, Cape of Good Hope.
festiva Lamarck, Central America.
flammeus Gmelin.
ispidula Linnaeus.
micans Dillwyn, Moluccas; Philippine Islands; Isle of France.
mitraeformis Lamarck, Java; New Holland.
ponsonbyi Smith, Natal.
queketti Smith, Natal.
scapha Gmelin, Cape of Good Hope.
turrita Gmelin.
ziczac Mühlfeld, South Seas.
- Volutilithes gilchristi* Sowerby, Cape Natal.
- Volutomitra cinnamomea* A. Adams, Natal.
- Zisiphinus euglyptus* A. Adams, Van Diemens Land.
multiliratum Sowerby.
- Zofra mitriiformis* A. Adams, Mino-Sima.

EXPLANATION OF PLATES.

PLATE 1.

- ella puella* Gould, type, length 10 mm., p. 38.
ella alfredensis, new species, type, length 2.5 mm., p. 41.
ella turtoni, new species, type, length, 8.5 mm., p. 39.
ella turtoni, new species, type, length 4.7 mm., p. 77.
ella alfredensis, new species, type, length 12.4 mm, p. 6.
ella cleo, new species, type, length 6.8 mm., p. 39.
ella neglecta Sowerby, length 4.1 mm., p. 39.
ella africana, new species, type, length 3.4 mm., p. 5.
ella smithi, new species, cotype, length 4.5 mm., p. 4.
ella lavendulus, new species, type, length 36.1 mm., p. 12.
ella eucosmia, new species, type, length 12.5 mm., p. 37.
ella alfredensis, new species, cotype, length 45 mm., p. 13.

PLATE 2.

- ella dina*, new species, type, length 6 mm., p. 23.
ella turtoni, new species, type, length 26.5 mm., p. 17.
ella haliplex, new species, type, length 29.5 mm., p. 19.
ella lara, new species, type, length 13.6 mm., p. 22.
ella halistrepta, new species, type, length 33.5 mm., p. 19.
ella humerosa, new species, type, length 6.6 mm., p. 30.
ella eucosmia, new species, type, length 12.4 mm., p. 28.
ella nereia, new species, type, length 14 mm., p. 16.
ella halidoma, new species, type, length 18.6 mm., p. 23.
ella amplexa Gould, type, length 8 mm., p. 30.

PLATE 3.

- ella ima* new species, type, length 8.1 mm., p. 31.
ella alfredensis, new species, type, length 27 mm., p. 54.
ella stimpsoni, new species, type, length 5.4 mm., p. 33.
ella nympa, new species, type, length 3.9 mm., p. 29.
ella tubulosa Gould, type, length 8 mm., p. 5.
ella turtoni, new species, type, length 25 mm., p. 50.
ella alfredensis, new species, type, length 29.2 mm., p. 48.
ella arata, new species, type, length 6.7 mm., p. 27.

PLATE 4.

- ella elizabethae*, new species, type, length 13 mm., p. 16.
ella dalli, new species, type, length 18 mm., p. 33.
ella alfredensis, new species, type, length 133 mm., p. 46.
ella alfredensis, new species, (detail of sculpture of the spire), p. 46.
ella alfredensis, new species, (detail of sculpture of base), p. 46.
ella schus alfredensis, new species, type, length 60.5 mm., p. 94.
ella alfredensis, new species, type, length 33.5 mm., p. 50.
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EXPLANATION OF PLATES.

PLATE 1.

1. *Marginella puella* Gould, type, length 10 mm., p. 38.
2. *Marginella alfredensis*, new species, type, length 2.5 mm., p. 41.
3. *Marginella turtoni*, new species, type, length, 8.5 mm., p. 39.
4. *Ringicula turtoni*, new species, type, length 4.7 mm., p. 77.
5. *Haminea alfredensis*, new species, type, length 12.4 mm, p. 6.
6. *Marginella cleo*, new species, type, length 6.8 mm., p. 39.
7. *Marginella neglecta* Sowerby, length 4.1 mm., p. 39.
8. *Cylichna africana*, new species, type, length 3.4 mm., p. 5.
9. *Acteocina smithi*, new species, cotype, length 4.5 mm., p. 4.
0. *Conus lavendulus*, new species, type, length 36.1 mm., p. 12.
1. *Marginella eucosmia*, new species, type, length 12.5 mm., p. 37.
2. *Conus alfredensis*, new species, cotype, length 45 mm., p. 13.

PLATE 2.

1. *Mangilia dina*, new species, type, length 6 mm., p. 23.
2. *Clionella turtoni*, new species, type, length 26.5 mm., p. 17.
3. *Clavatula haliplex*, new species, type, length 29.5 mm., p. 19.
4. *Drillia lara*, new species, type, length 13.6 mm., p. 22.
5. *Clavatula halistrepta*, new species, type, length 33.5 mm., p. 19.
6. *Mangilia humerosa*, new species, type, length 6.6 mm., p. 30.
7. *Mangilia eucosmia*, new species, type, length 12.4 mm., p. 28.
8. *Clionella nereia*, new species, type, length 14 mm., p. 16.
9. *Drillia halidoma*, new species, type, length 18.6 mm., p. 23.
0. *Mangilia amplexa* Gould, type, length 8 mm., p. 30.

PLATE 3.

1. *Cythara ima* new species, type, length 8.1 mm., p. 31.
2. *Bullia alfredensis*, new species, type, length 27 mm., p. 54.
3. *Donovania stimpsoni*, new species, type, length 5.4 mm., p. 33.
4. *Mangilia nympha*, new species, type, length 3.9 mm., p. 29.
5. *Cylichna tubulosa* Gould, type, length 8 mm., p. 5.
6. *Euthria turtoni*, new species, type, length 25 mm., p. 50.
7. *Cominella alfredensis*, new species, type, length 29.2 mm., p. 48.
8. *Mangilia arata*, new species, type, length 6.7 mm., p. 27.

PLATE 4.

1. *Clionella elizabethae*, new species, type, length 13 mm., p. 16.
2. *Cancellaria dalli*, new species, type, length 18 mm., p. 33.
3. *Fasciolaria alfredensis*, new species, type, length 133 mm., p. 46.
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